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AGRICULTURE OF VERMONT

FORTY-SECOND
BIENNIAL REPORT
of the
COMMISSIONER OF AGRICULTURE
of the
STATE OF VERMONT

1983-1984

GEORGE M. DUNSMORE, COMMISSIONER

SEAL OF QUALITY
Vermont
DEPARTMENT OF AGRICULTURE

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Madeline Valentine and Commissioner George Dunsmore.

DEDICATION

This 42nd Biennial Report of the Vermont Department of Agriculture is dedicated to Madeline Hamilton Valentine who recently retired after nearly 42 years with the Department.

Madeline worked at one time or another in nearly every division within the department. In 1981 she was the recipient of the Employee of the Year Award.

She was always cheerful and cooperative.

Statement from the Commissioner

By GEORGE M. DUNSMORE
Commissioner of Agriculture

According to recent statistics released by the Vermont Department of Agriculture, some 6,315 farms in the state are largely responsible for some $585.6 million worth of agricultural products.

That is a sizeable amount of production for a small state, and farmers alone are not entirely responsible, but without their basic food goods there would be no such figure.

As an example, Vermont produced $333.5 million in milk in 1983. Along with that, there was another $105 million in added-value dairy products such as cheeses, butter, and similar products.

The total dollars that come from our 3,120 operating dairy farms come to more than $438 million for milk and other products derived from that milk.

Other large contributors to Vermont's overall agricultural production value include plants and other greenhouse products ($45 million), beef and veal ($47 million), maple products ($10 million), manufactured foods ($10 million), apples ($7.5 million), vegetables ($7 million), Christmas trees ($7 million), hay ($6 million), eggs and poultry ($4 million), and lamb ($1.7 million).

These figures show us that while dairy continues to be the primary product of Vermont farms, there is also an increasing diversity of effort which is resulting in growth in other products, particularly lamb, turkeys ($436,000 and increasing rapidly), and the blooming and leafing products of our plantsmen, an often overlooked agricultural enterprise.

Value of our farms in the Green Mountain State has been pegged at $1.3 billion by the U.S. Commerce Department in its 1982 Vermont Farm Census.

With these kinds of economic interests involved in Vermont's agriculture sector, it is then in the interest of all Vermonters that farms in our state remain prosperous and with reasonable prospects for long-term stability and growth.

Thus the Vermont Department of Agriculture, while maintaining its regulatory functions such as dairy, retail and meat inspections, also works to assure markets for our Vermont food products.

We are fortunate in Vermont in that we have the climate, traditions and work ethic to produce some of the nation's finest food products. And our reputation as fine producers is well-known in and out of state.

Thus when we talk about the department's efforts in marketing, we are looking to match supply with demand, consumer education, and assuring that buyers for retail outlets both in New England, across the country and overseas, know of the reputation and supply availability of Vermont products.

Simply, as the demand for Vermont products increases, the farms can be assured of markets and therefore increase production and profits.

And that leads to healthier farms.

Report of the Dairy Division

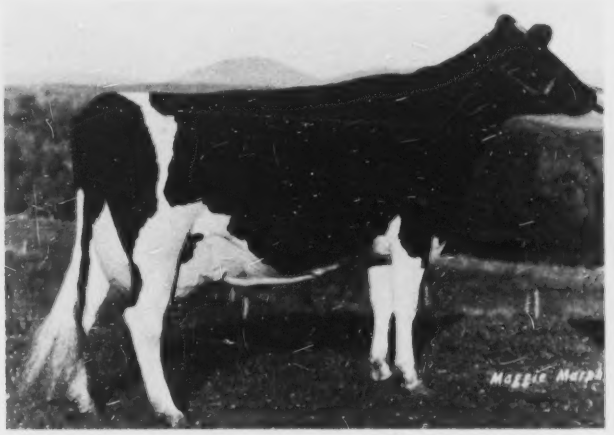
Donald F. George, *Director*

PERSONNEL

Dairy Inspector Supervisor — Byron D. Moyer

Dairy Inspectors —
Stanley Baker
Paul Beebe
Gary Braman
Laurie Justis
Harold Lewis, Jr.
Gerald Marckres
Charles Sartelle, Sr.
Durwood Todd
Keith Tupper

Office Staff —
Eva Brown
Ina Lamphear



The dairy industry throughout the nation has increased milk production resulting in a surplus of milk and dairy products. The United States Department of Agriculture set up the 1983-1984 Milk Price Support Program to give dairy farmers the opportunity to collect ten dollars per hundredweight for reducing their milk production from between 5% and 30% during a fifteen month period. Vermont dairy farmers reacted with a 14% sign up for the program. This carries the potential for decreasing milk production in the State of Vermont by approximately 3%.

In the Spring of 1983, the Vermont Department of Agriculture negotiated an agreement of reciprocity for farm inspections with the Massachusetts Department of Agriculture. In the future Massachusetts will accept inspections made by the Vermont Department of Agriculture's dairy inspectors, however, they do reserve the right to make inspections on all new farms and to make spot inspections whenever they deem necessary.

During November of 1983, the Richmond Cooperative Creamery Association merged with the Eastern Milk Producers Association of New York. The Richmond Cooperative cheese manufacturing plant was sold to Geraldine DeStefano. Mrs. DeStefano operates a cheese manufacturing plant in Maryland and will operate the Richmond based manufacturing plant as a separate entity.

Wyeth Nutritionals has completed construction on their infant formula processing plant in the Georgia, Vermont Industrial Park. The major component of their infant formula, which will be utilized in the Third World Countries, is protein derived from whey. Wyeth Nutritionals will purchase whey protein concentrate and have it delivered to them via an underground tunnel pipeline system from Express Foods' processing plant located approximately 1/3 of a mile distance. The Wyeth Nutritionals facilities also includes their World Research Laboratories. These laboratories house a prototype processing plant for testing and research of new products.

As a result of furnishing whey protein to Wyeth Nutritional, Express Foods have expanded their plant to include a 12.5 million dollar demineralization section.

International Cheese Company, Hinesburg, has built a new cheese manufacturing plant. This plant, when fully operational, will have the capacity to process 1.5 million pounds of milk per day into cheese products. This equals 20% of the milk produced in the State of Vermont.

All of the above-mentioned facilities are using the latest state of the art technology with highly automated equipment.

To increase the profitability of Vermont dairy farmers and to improve milk quality in the marketplace, the Dairy Division established a Milk Quality Enhancement Program to assist dairy farmers with mastitis control. This is a cooperative program with the University of Vermont, private veterinarian practitioners, milk handlers, and the University of Vermont Extension Service. Although the full impact of the program has not yet begun, several successes have been recorded. The program has the potential of increasing profitability to dairy farmers by 3% in milk production alone. A 3% increase in milk profits for Vermont dairy farmers should total $6.5 million dollars per year. This does not take into consideration monies saved for medical treatment and cow replacement. The program set up should maintain assistance to dairy farmers for many years to come as well as improving product quality in the marketplace.

During the past year, the Dairy Division promulgated revisions to regulations relating to milk and cream and to regulations relating to ice cream. A major overhaul of the ice cream regulations was to set standards of identity for the various frozen dairy products. Revisions to the milk and cream regulations were varied and included new definitions for various products and processing methods and more stringent standards for the sale of raw milk in packaged form for consumption, including a warning notice on the label to notify consumers that the product was not pasteurized and that pasteurization destroys organisms that may be harmful to human health. Other revisions established a more equitable enforcement program to ensure the quality of all dairy products.

During 1983 Vermont dairy farmers produced over 2 billion pounds of milk. Approximately 42% of that milk was shipped out of Vermont as fluid milk; 9.5% was consumed within the State as fluid milk; 38% was manufactured into cheese products with approximately 11.5% made into cheddar, 23% into foreign type cheese and 3.5% made into cottage cheese. The remainder of the product was manufactured into dry milk powder, butter, condensed or evaporated milk, ice cream and yogurt.

Report of the Vermont Milk Control Board

George M. Dunsmore, *Commissioner of Agriculture, Chairman*
Dean Rowden, *Member*
John S. Hall, *Member*
Donald F. George, *Administrative Officer*
Eva R. Brown, *Clerk*

The Vermont Milk Control Board held a hearing on July 1, 1983, to hear testimony regarding the effects of the April 1, 1982, suspension of producer pricing. Numerous processors and dairy farmers gave testimony and the Vermont Milk Control Board voted to continue the suspension of producer pricing.

Report of the State Dairy Council

Edward Holden, Bennington, *Chairman*
James Austin, White River Jct., *Member*
Marvin Chapman, North Williston, *Member*
Austin Cleaves, East Montpelier, *Member*
John Fuller, Perkinsville, *Member*
Roxie Hathaway, Rutland, *Member*
Douglas Kitchel, Jr., Passumpsic, *Member*
Genevieve Strohmaier, Bennington, *Member*
Debbie Van Arman, Norwich, *Member*
George M. Dunsmore, *Commissioner of Agriculture, Ex-Officio*
Dr. Leonard Bull, *Chairman of Animal & Dairy Science, UVM, Ex-Officio*
Milton A. Eaton, *Sec., Agency of Development & Community Affairs, Ex-Officio*
Donald George, *Department of Agriculture, Administrative Officer*
Eva Brown, *Department of Agriculture, Clerk*

The State Dairy Council administers the milk promotion assessment imposed on all milk sold for consumption in the State of Vermont and the license fees collected by the Vermont Milk Control Board. The funds are used for advertising, promotion, and administrative cost in the administration of these functions in the dairy field. The bulk of the funds are allocated to the Dairy Council of Vermont, with other smaller allocations to the Vermont Milk Flavor Program, Green Mountain Dairy Promotion, Inc., Milk Promotion Services, Inc. and a brand advertising program with qualified milk dealers.

During 1984, the brand advertising program was suspended to allow the State Dairy Council to become a qualified milk promotion agency with the Federal milk promotion program, which is being operated in conjunction with the USDA diversion program.

During the past two years the State Dairy Council has met jointly with the Vermont Dairy Industry Council as many of the contracting agencies draw funds from both councils.

Report of the Vermont Dairy Industry Council

George M. Dunsmore, *Commissioner of Agriculture, Chairman*
Roderick Towne, *Cabot Farmers Co-op.*
Leo Connor, *Eastern Milk Producers*
Victor Bergevin, *Northern Farms*
Wayne Patenaude, *Agri-Mark, Inc.*
Robert Foster, *Agri-Mark, Inc.*
Dr. Clarence Jordan, *Agri-Mark, Inc.*
Douglas Nelson, *Independent*
Rodolphe Vallee, *St. Albans Coop.*
Irving Blackwell, *St. Albans Coop.*
Herbert Messenger, *Independent Dairy's Association*
Donald George, *Vermont Department of Agriculture, Administrative Officer*
Eva Brown, *Vermont Department of Agriculture, Clerk*

The Vermont Dairy Industry Council administers the milk promotion assessment imposed on milk which is produced in the State of Vermont and sold out of the State. The funds are used for advertising, promotion, research, and administrative costs for the distribution of these functions in the dairy field. The bulk of these funds are allotted to Milk Promotion Services, Inc. with other smaller allocations to the Vermont Milk Flavor Program, Green Mountain Dairy Promotion, Inc., and Agricultural Enterprises, Inc.

During the past two years a settlement was agreed upon between the dairy farmers, who were plaintiffs and plaintiff-intervenors with the Vermont Dairy Industry Council and the State Dairy Council regarding a suit over the revisions to the milk promotion laws which were passed by the 1981-82 legislative session. The major portion of the monies of that settlement was given to the Department to establish new promotional efforts.

Report of the Laboratory Division

Robert N. Mullen, *Director*

PERSONNEL

Chief Agricultural Chemist —	Rudolph L. Polli
Chemist Specialist —	John J. Jaworski
Animal Health Lab. Supervisor —	Richard Stewart
Laboratory Technicians —	Romeo Cyr
	Anita Fernandez
	John Santorello
	Victoria Jamison
Laboratory Helper —	Dorothy Clark (terminated 12/31/82)
Typist B (½ time) —	Joan Tucker (started 3/25/84)

The Central Testing Laboratory is composed of a Dairy Products testing section, Meat Inspection Laboratory section, Animal Health testing section and a Pesticide Analysis section.

The primary objective of the Laboratory Division is to provide laboratory capability necessary to enable the Vermont Department of Agriculture to meet the following objectives: (1) protect the public from health hazards resulting from animal disease, (2) protect the public health from hazards resulting from unsanitary conditions in food production, food processing, and food marketing, (3) improve the quality of agricultural products, (4) offer services to farmers, consumers of agricultural products, (5) protect the public from fraud in the marketplace, (6) protect the farmer from certain extraordinary economic losses, and (7) convince the public that Vermont agricultural products are of superior quality.

A brief description of the four major program areas is as follows:

1. *Livestock Laboratory* — Responsible for analyzing blood serum and milk for brucellosis and blood samples for pullorum-typhoid and mycoplasma. These results are reported to the Livestock Division.

	1983	1984
Milk Ring Tests	33485	30669
Blood Tests (includes cattle, swine and goats)	53492	44376
Poultry Testing —		
Pullorum Typhoid	3599	20701
Mycoplasma Gallisepticum	550	1370
Mycoplasma Synovia	190	1355
Parasite Samples	12	9
Samples prepared for testing in other labs	220	187

This laboratory is also responsible for issuing supplies to state and federal inspectors, veterinarians, slaughter plants, commission sales, and auctions. Brucella vaccine and tuberculin are issued to veterinarians only.

2. *Dairy Products Laboratory* (Central Dairy Testing Laboratory) — This section has the responsibility of analyzing dairy products sold within the state on a monthly basis for the Dairy Division, to ensure that they meet the state and U.S. Food & Drug Administration minimum standards. This laboratory also analyzes all farm water supplies used for the cleaning and sanitizing of milking equipment.

The Dairy Laboratory also places high priority on all consumer, producer, industry, other state agencies, and the Extension Service requests for assistance on problem solving as it relates to the production of quality dairy products.

Numerous test procedures are used, the most important being butterfat, bacteria counts, coliform counts, phosphatase, antibiotics, added water and flavor.

The total of tests run for the biennial period is as follows:

	1983	1984
Tests on Fluid Dairy Products	33075	34276
Tests on Frozen Desserts	4059	5350
Water Analyses	1843	2111

A small but continuous, commercial analysis program has been in existence for years to counteract the shortage of commercial laboratories in the state. This work is done on a fee basis.

3. *Meat Inspection Laboratory* — This laboratory provides services to the Livestock Division, consumers, and the meat industry. Its legal mandate is to ensure that meat and meat products are wholesome and unadulterated, as well as in compliance with state and federal legislation.

Meat samples and processed meat products submitted by meat inspectors, retail inspectors, State Purchasing Division, consumers and law enforcement agencies are analyzed. The product to be analyzed dictates the specific tests to be performed and some of the common tests are fat content, added water, protein, salt, nitrites, soy flour, and non-fat dried milk.

The meat industry also avails itself of services offered by the meat laboratory to ensure their compliance with the results and regulations and that their products are correctly formulated and wholesome.

Meat analysis requires slow and very precise analytical procedures.

	1983	1984
Meat Samples Analyzed	268	172

4. *Pesticide Analysis Laboratory* — The pesticide laboratory was created to monitor pesticide formulations sold at the retail level, monitor pesticide applicators and their products, and to check pesticide residue concentrations in areas which have been or may have been treated. These services are performed for the Plant Industry Division to ensure the safety of the public from the misuse of pesticides.

The greatly increased sensitivity and versatility of the analytical instrumentation in the new pesticide laboratory will greatly improve the services provided by the Laboratory Division to the Vermont Department of Agriculture, the agriculture community, and the consumer.

For this biennial period, the following analyses were performed:

	1983	1984
Formulation Samples	127	132
Residue Samples	82	111

Another function of the Laboratory Division, which has proved very successful, has been the training of other federal, state and industry analysts. This new program has improved mutual cooperation and uniformity of testing for the benefit of all, especially Vermont, an exporting state.

Each major section of the laboratory has participated, at least annually, in national proficiency testing programs. Each section is also approved by its federal counterpart to do the official analysis for the interstate shipment of animals, dairy products, meats, and to control the use of pesticides.

Report From the Animal Diagnostic Laboratory Animal Health Section, Department of Animal Sciences University of Vermont

During the past two years the animal diagnostic laboratory has shown a slight increase in the volume of services provided to Vermont veterinarians and animal owners. Although increasing costs have resulted in higher fees for laboratory services, more blood tests, pregnancy tests, milk samples and tissue specimens for culture or histology have been processed. Fewer animal autopsies are performed due to the cost of transportation and incineration of carcasses. The local veterinarian completes the large animal autopsy on the farm and submits selected tissues and specimens for laboratory examinations. Veterinarians in most areas of the state use bus delivery service for specimens. Vermont Transit calls us when packages are received in Burlington.

Several new laboratory techniques have enabled further improvement with fast, accurate results. Blood tests on animals for shipment to foreign countries constitute an increasing volume of our work.

As in the past, abortions and breeding problems are a major cause of loss to Vermont dairymen. Few herds attain the objective of a calf per cow per year. The resulting cost to the dairy industry is substantial and used to roughly equal the amount of property taxes paid by the owner. Present research effort is focused on ureaplasmas, mcyoplasmas, chlamydia and other agents in the role they play in these losses. Evidence at present suggests they are involved.

The diagnostic staff members look forward to providing the necessary backup tests and laboratory services needed by Vermont veterinarians and animal owners. Improved animal health is thus a group effort.

Respectfully submitted
W. D. Bolton, D.V.M., Professor
Animal Health Section
Department of Animal Sciences

Weights and Measures and Retail Inspection

Trafford F. Brink, *Director*

PERSONNEL

Steno C — Jean Kopach

Metrologist — Raymond Cioffi

Inspectors — Frank Bump
Robert Howard
David Haynes
Ed Cox
Frank Troyse (resigned 9/23/84)
Hugh Lund
Charles Lavery (resigned 4/30/84)
Vince Grove

General

During the biennium period the Retail Inspection functions were carried out by all inspectors along with Weights and Measures work until January 1, 1984. At that time they separated the Division with Weights and Measures under one section and Retail and Shipping Point Inspection under another. Many violations were found doing the retail inspection of agricultural products. These violations were followed up by mail and in many cases by a personal call to the producer or packer in order to assist them in correcting the problem and to insure that it will not be repeated.

Many complaints were received on the delivery of loads of fireplace and stove wood, because of short measure. Some of the deliveries being as high as fifty percent short measure when the wood was measured by an inspector from this division. The violations in most instances are turned over to the Consumer Fraud Division.

As our inspectors have full police powers and their vehicles are equipped with blue lights and sirens, we were assigned the task of stopping trucks with loads of fertilizer. Samples were taken and forwarded to the Vermont Extension Service to be analyzed to insure that the analysis is the same as stated on the invoice for the product being delivered.

Starting at the end of this biennium we are using a hydraulic press that has been calibrated by a proving ring with traceability from the National Bureau of Standards to test the wheel loaders used by the State Police and the Department of Motor Vehicles. With this method we are able to check the scales individually and to capacity.

Measurement Center

Raymond Cioffi was appointed Metrologist for our Weights and Measures Laboratory. He attended a two week training school in the fall of 1983 at the National Bureau of Standards at Gaithersburg, Maryland. With this training we were able to recertify our laboratory which will give us traceability to the International Standards in Paris, France, for length, mass and volume. The metrologist attends training schools at the National Conference each year. The state is also a member of the Weights and Measures Assurance Program which consists of the directors and metrologists from nine states. This organization holds meetings at least twice annually at which time the metrologist from each state writes and delivers a paper. The Highway Department now requires that all plants that sell blacktop or concrete to the state must have their weights calibrated in a state laboratory. This has increased the amount of our work in the lab considerably. The metrologist has taken over the responsibility of calibrating all maple syrup and sap hydrometers to insure that they are within the tolerances allowed by the state. During the biennium we have been averaging nearly 3,000 hydrometers a year. Many of the manufacturing facilities in the state are sending in their weights for certification. It is expected that the work in the Weights and Measures Laboratory will increase during the coming biennium.

The metrologist has the responsibility of testing all heavy duty scales in the state. These include vehicle scales, track scales, hopper scales, etc.

Education

The proposed training modules that were to be offered to the state during this biennium were postponed from the original schedule as the university that was writing the modules decided not to carry out the project. The work has been reassigned to four contractors to insure the work being completed on schedule and several of the modules will be available to some states during the fall of 1984. There are thirty-seven of these training modules planned. There will be a training module for each type of scale from small retail scales to large vehicle scales, all types of retail motor fuel dispensers, mechanical and electronic, checking net contents of packaged goods, labeling of packaged products, communication with the device owners and operators, industry and consumers, introduction to electronic weighing and measuring systems, load cells and analog-to-digital conversion, EMI, RFI, Electrostatic Discharge, environmental testing.

Each year Vermont attends a Tri-State Training School with Maine and New Hampshire with instructors from the National Bureau of Standards. The purpose of these training schools is to provide an awareness of the electronics systems in the marketplace; their complexity, capabilities, and component interrelationships as they relate to weighing and measuring in commercial transactions.

This training program also brings the inspectors up to date on all changes in the laws and regulations and latest technical developments in the weights and measures area.

In June, 1984 personnel from this Division attended a school on packaging and labeling with instructors from the National Bureau of Standards. This school was also attended by Maine and New Hampshire. N.B.S. Handbook 133 "Checking The Net Contents of Packaged Goods" is the new handbook which will replace Handbook 67 in most states. The concept of this handbook is to accept or reject a lot of a commodity by using statistical sampling and not using any unreasonable errors. This handbook also explains the correct method for testing of all commodities such as solids, liquids, count, square feet, aerosol, etc. This handbook could be confusing until it is properly explained, thus the training school was very beneficial.

Motor Oils and Fuels

All vehicle tanks meters and air eliminators were checked annually to insure accuracy for both dealer and consumer. When testing these meters, we make adustments to bring them in to as near zero as possible. With the price of heating oils today, we feel that this is very important. If an air eliminator is not working properly, air will go through the positive displacement meters that are used today and the consumer could be overcharged a considerable amount. The state of New Hampshire does not check air eliminators and so as to protect the Vermont consumers, all vehicle tank meters that are being used to sell in Vermont will be checked in the fall of 1984. We have very few plant meters in the state today with all major oil companies moving out with the exception of two in Burlington. All product is being trucked in from Maine, New Hampshire, Massachusetts, New York and Canada. All trucks with gravity meters are checked at the weigh station in Ferrisburg. This requires transports from Bennington, Brattleboro and transports from New Hampshire to travel a great distance. We are looking for a facility in the southeastern part of the state to test these meters.

Coal is still being used in a much greater volume than it was ten years ago. The scales where this coal is weighed is checked annually by this division to insure accuracy.

With the large increase in the sale of kerosene being used in the kerosene heaters, it has been necessary to insure that the kerosene being sold is being marked K-1 or K-2. K-1 is the only kerosene that is clear enough to be used in the new kerosene heaters.

Temperature Compensation

It has been brought up at the last two National Conferences on Weights and Measures to allow petroleum products to be temperature compensated to 60 degrees Fahrenheit to the consumer. As heating oils are being sold at a much lower temperature than 60 degrees Fahrenheit, it would be an additional cost to the consumer in their seasonal heating bill. As this affects the whole northeastern part of the country, the voting members from these states have been able to have this motion tabled for the past two years. There has not been a significant majority vote and this may pass at any conference. The basic underlying problem seems to be the hesitancy on the part of the states

to specify that petroleum products must be sold at each specific level of distribution under a unified standard that is all gross or all (net) gallons.

We found some of the petroleum products in the state being preheated before being sold. This practice is unethical and certainly a fraudulent market practice and the method of selling product at warmer than the ambient temperature was stopped.

There needs to be a synopsis held at the 1984 National Conference on Weights and Measures and all interested parties present as much factual information as possible, so that a determination may be made as to what definite uniform standard is appropriate for each and every application.

Agri-Chemical Meters

There are many liquid products being sold today where a code has not been drafted that is applicable to the devices used to measure these products. It has been recommended to the National Conference that codes be drafted for the following liquids, fertilizer, feed, herbicides, pesticides, insecticides, fungicides, defoliants, protein supplement, normally used in agriculture, chemical industries and garages. With only minor changes these products could be added to the Liquid Measuring Devices Code and Vehicle Tank Meters Code. The only significant change needed would be in the tolerances. This is needed because these liquids, unlike petroleum products, are generally corrosive, non-lubricating and in some cases, very temperature sensitive, which creates extreme viscosity thickness changes within a given product. There also is in many cases blends of various products that are not subject to the same level of quality control as petroleum products.

Gasoline-Alcohol Blends

Alcohol blended with gasoline has been on the market for several years. Gasoline came out with a ten percentage of ethanol being used which saves on our supply of gasoline and with no harm to the engines of the motor vehicles that it was used in. What it did was to clean out any dirt or other foreign substance in the gas tanks and in some cases plugged up the filters and carburetors.

One of the major oil companies started using methanol (wood alcohol) with cosolvents which apparently had no harmful effects on the engines where it was used. The problem developed when distributors started to use this as an extender as the price of methanol is only about half the price of gasoline. It was found in some states where as much as 20 percent of the product was methanol as each distributor handling the product kept adding another five percent methanol. Most of the automobile manufacturers came out in their handbooks that if methanol was used, that they might not stand in back of the guarantees as it could be damaging to the engines. The National Conference adopted a one percent ethanol/methanol in gasoline labeling guideline. The guideline is: All motor fuel kept, offered, or exposed for sale, or sold containing at least one percent by volume ethanol or methanol should be identified on the motor fuel dispenser as "with" or "containing" ("ethanol"), ("methanol") or ("ethanol/methanol") or similar wording. Many states that have the facility to check motor fuels for methanol or other cosolvents did not consider this strong enough and have mandated that the signs show the maximum alcohol content which would show the percent of methanol and the percent of other cosolvents. Also that all bills of lading, shipping papers or other documentations used in normal and customary business practices should plainly and conspicuously state the maximum alcohol content with a breakdown of the amount of methanol and cosolvents.

Before we come out with a regulation requiring labeling of gasoline pumps to show the amount of alcohol over one percent, we will wait to see what the National Conference passes in 1984.

We checked many brands of gasoline being sold in Vermont to find out if they contained any alcohol. We did not find any alcohol in any of the gasoline tested.

General Inspection Work Performed During the Biennium

	Total Number Tested	Rejected	Adjusted
Small Scales	10,685	929	945
Liquid and Linear Measure	324	10	2
Weights	3,786	44	222
Liquid Measuring Devices	9,762	1,168	99
Track Scales	10		4
Heavy Duty Scales	951	187	402
Vehicle Meters	857	29	276
Air Eliminators	800	28	1
Plant Meters	39	6	32
LP Gas Meters	291	14	27
Total Packages Checked —	32,775		
Correct	24,927		
Light	5,221		
Heavy	2,627		

Retail and Shipping Point Inspection Section

Supervisor — Bruce A. Martell

Inspectors — David Haynes (transferred as of 1/1/84)
Henry Marckres

During this biennium continuing reorganization was taking place in Retail Inspection, Shipping Point Inspection and Weights and Measures. When warranted, cross utilization of employees between Weights and Measures and Retail and Shipping Point Inspection was implemented according to the varying degrees of expertise of employees. These adjustments within the Division have increased the capacity of the staff to service increased complexity of farm and retail operations in an economic way.

One of Vermont's primary marketing advantages is the quality of products. The Division continues to supply practical technical assistance to poultry, maple, apple and vegetable producers.

Retail Inspection Work Performed During the Biennium

	Total Lots Tested	No. of Violations
Maple syrup	998	387
Eggs	1,253	140
Potatoes	658	73
Apples	610	50
Strawberries	222	5
Retail Meat Inspection	1,752	132
Class C Pesticide	1,686	17
Dairy Products	1,786	53
Frozen Foods	1,663	8

Apples

With an approximate 1.1 million bushel apple crop in Vermont for 1983, the industry is confronted with a tougher marketing situation. Fortunately, the export market looks positive. There were approximately 150 container loads of apples per year exported to England, Scotland, and Ireland. It requires two to three hours per load of apples to look at a sufficient number of samples and to fill out necessary documents. This state monitored U.S.D.A. grading service for apples fills the need in the marketing system for unbiased grading and certification for domestic and international trade channels in order to help sell Vermont produced apples.

The Division also administers the Vermont Controlled Atmosphere Program for apples.

This mandatory program maintains optimum storage conditions in order to insure high quality apples are available in the marketplace, thus maximizing apple profitability.

Inspections of all controlled atmosphere facilities and records include 37 storage rooms requiring a minimum of three visits per room during the first three months of storage.

Poultry and Eggs

The Division has continued to administer the U.S.D.A. Shield Egg Program in Vermont. One federally licensed shell egg grader presently works fulltime at the Vermont plant enrolled in the program. Some chain stores require shield eggs as a contract condition. The program is designed to assure consumers a continuous supply of high quality eggs.

Division personnel also administer the Federal Shell Egg Surveillance Program.

This program insures consistency of egg quality and safeguards the public health. It further regulates the processing and distribution of eggs and egg products to prevent the movement or sale for human food, of eggs and egg products which are misbranded or otherwise in violation of the Egg Products Inspection Act.

This is accomplished by quarterly inspections of all farms with 3,000 or more laying hens. This includes a review of company records, methods of handling restricted eggs, labeling of restricted eggs, and a physical check of product packed as restricted eggs and those packed for distribution to the ultimate consumer. At the present time there are fifteen poultry farms registered in the Federal Shell Egg Surveillance Program.

Seal of Quality Program

This program enhances reputation and identifies Vermont agricultural products. The regulatory portion of this program includes:

1. Writing new and evaluating old Seal of Quality standards.
2. Evaluating applicants.
3. Assisting participants with production and product quality.
4. Inspection of producer facilities along with monitoring the product at the shipping point and retail level for quality. There has been an approximate 20% increase in participants since 1982 to the present.

Seal of Quality Participant List

Maple Syrup (products)	102
Eggs	7
Apples	8
Dairy Products	15
Honey	12
Potatoes	1
Sprouts	1

Maple

Due to the Maple Products Regulations approved by the Legislative Committee on Administrative Rules — September 22, 1982, there have been **26** Maple Dealers' Licenses issued.

This licensing procedure has required extensive investigation of companies importing maple syrup from Canada and states other than Vermont. The new maple regulation along with amended October 24, 1983 Customs Regulations, ensures that an ultimate purchaser in the United States is aware of the country of origin of the maple syrup they purchase.

The Division is also responsible for the color blending and assembling of 2,000 maple syrup grading kits. This is done in cooperation with the Vermont Maple Sugar Makers Association, which pays the costs of and distribution of the kits.

Potatoes

The Division offers a Federal-State Shipping Point Inspection Service to potato growers. The service is important to growers wishing to compete in certain out-of-state markets.

Education

Inspectors continued to work with Vocational Agriculture Instructors in classrooms demonstrating proper techniques used in checking maple syrup density, grading and packing syrup, and grading eggs.

Division personnel also serve as judges at many county fairs.

Report of the Plant Industry Division

Philip R. Benedict, *Director*

PERSONNEL

Apiary Inspectors: Richard Brigham (7/1/82-9/17/82; 6/1/83-10/21/83; 6/18/84-6/30/84)
Charles Androse (7/1/82-10/14/83; 5/11/84-6/30/84)
Apiculturist: Richard Drutchas
Entomologist: Jon Turmel
Legal Intern: Robert Case (7/1/82-5/27/83)
Karen Leuders (6/1/83-8/23/83; 12/23/83-1/13/84)
Pesticide Certification & Investigation Specialist: David Hafner
Plant Industry Agent A: Kenneth Atwood
Plant Industry Agent B: Richard Jensen
Plant Pathologist: Steven Justis
Stenographer C: Catherine Rand
Temporary Pesticide Inspector: Joel Davidson (7/1/82-9/16/82)
Daniel Warthin (7/11/83-9/2/83; 6/4/84-6/30/84)
Typist B: Lucille Lovely
Typist C: Madeline Valentine

Pesticide Control

The pesticide control program is supported by two federal grants. Both grants are awarded annually.

The certification grant deals with the certification and licensing of pesticide applicators and dealers. This grant has been awarded annually since 1977. Written exams are required to obtain an applicator's certificate or a dealer's license. Recertification or continuing education is the second phase of initial certification. Recertification is the means by which certified applicators can obtain credit to reinstate their certificates. Credit can be obtained through re-examination or attendance at a Department of Agriculture approved recertification meeting.

The following number of individuals are certified or licensed under the certification program:

Private applicators	1,768
Commercial applicators	718
Class "A" dealers	119
Class "B" dealers	237
Class "C" dealers	1,381

Vermont has issued 125 company licenses to companies which apply pesticides on a commercial basis. The following table summarizes the restricted use pesticides sold in Vermont as reported by dealers and pesticides used in the state as reported by commercial applicators.

Summary of Class "A" Pesticides Sold by Vermont Dealers During the Calendar Years 1982 and 1983

Compound	Actual Amount in Pounds 1982	1983
Aldicarb *(Temik)*	497.3	162.5
Azinphosmethyl *(Guthion)*	3,142.75	4,711
Cadmium	41	70.87
Carbofuran *(Furadan)*	17,350.5	11,346.5
Chlordane	0	0
Chlorpyrifos *(Dursban)*	40	87
Crotoxyphos *(Ciodrin)*	13.06	12.66
Cycloheximide	9.69	.236
DDVP *(Vapona)*	3.04	2.8
Demeton *(Systox)*	0	222
Diazinon	418.23	555.43
Dinoseb *(Premerge-Dow General)*	471	78
Diquat	40	110
Disulfoton *(Di-syston)*	0	16.5
Endosulfan *(Thiodan)*	257	2,114
Ethoprop *(MOCAP)*	0	0
Fenthion *(Baytex)*	1	.63

Compound	Actual Amount in Pounds 1982	1983
Fenvalerate *(Pydrin)*	2.4	30
Fonofos *(Dyfonate)*	2,670	2,590
Isofenphos *(Oftanol)*	60	185.54
Lindane	159.53	22.45
Mercury	9.15	3.23
(Mesurol)	41.72	10.5
Methomyl *(Lannate-Nudrin)*	984.6	176.4
Methyl Bromide	1.96	35.28
Oxamyl *(Vydate)*	796	838
Paraquat	88	509.5
Parathion	160	8
PCP	112	50
Picloram	4.64	4.64
Terbufos *(Counter)*	0	0
Toxaphene	40.72	29.26
(Vapam)	54.00	465
Vorlex	0	1,855
Zinc Phosphide	511	812.9

Summary of Commercial Applicators' Annual Pesticide Reports

Compound	Actual Amount in Pounds 1982	1983
Acephate *(Orthene)*	60.75	65.71
Alachlor *(Lasso)*	55,330.03	42,567.25
Aldrin	0	0
Ametryn *(Evik)*	208	480
Aminopyridine *(Avitrol)*	0	.02
Amitrole *(Amitrole)*	.5	2
Ammonium sulfamate *(Ammate)*	2,433.9	47.5
Atrazine	103,366.7	92,947.13
Azinphosmethyl *(Guthion)*	3,605.25	3,038.75
Bendiocarb *(Ficam)*	37.68	64.76
Benefin *(Balan)*	0	45
Benomyl	397.75	521.32
Bensulide	164.39	186.76
Brodifacoum *(Talon)*	.02	.02
Bromacil *(Bromacil, Hyvar)*	611.8	1,230.5
Butylate *(Sutan)*	16,709.3	7,223.56
Cadmium	88.14	24.94
Captan	18,841.8	15,407.08
Carbaryl *(Sevin)*	1,569.57	896.58
Carbofuran *(Furadan)*	934	426
Chlordane	400	256
Chloroneb	247.19	138.36
Chlorophacinone *(RoZol)*	.36	4.82
Chlorothalonil *(Bravo, Daconil)*	653.55	1,800.84
Chloroxuron *(Tenoran)*	4	0
Chlorpyrifos *(Dursban)*	296.69	515.18
Chromium	.104	0
Copper Sulfate	4,019.4	346.5
Creosote	5,511	0
Cyanazine *(Bladex)*	34,486.6	23,494.6
Cyclohexamide	3.49	5.15
Cyhexalin *(Plictran)*	252.125	52.25
Dacthal *(DCPA)*	56.25	5.53
Dalapon *(Dowpon M)*	59.2	256.7
DDVP *(Vapona)*	8.14	4.6
Demeton *(Systox)*	45	172.5
Diazinon	629.84	782.71
Dicamba	1,329.66	1,060.34
Dichlobenil *(Casoron)*	14	6
Dichlone *(Phygon)*	1,693.13	2,900.25
Dicofol *(Kelthane)*	18.01	21.73
Dimethoate *(Cygon)*	0	1.3
Dinoseb *(Premerge)*	427.5	63
Diphacinone *(Ramiks, Promar)*	.14	.02
Diquat	1.74	3.85
Disulfoton *(Di-syston)*	5.39	15.18
Diuron	4,956	3,467.2
Dodine *(Cyprex)*	2.397	14.95
Dyrene	114.61	71.19
Endosulfan *(Thiodan)*	23.25	6.96
EPTC *(Eptam)*	2,447.5	1,633.15
Ethion	.9	0
Ethoprop *(Mocap)*	5	0
Ethylene Dibromide	0	0
Fenvalerate *(Pydrin)*	0	450
Fosamine *(Krenite)*	800	1,772
Glyphosate *(Round-up)*	2,898.29	3,009.35

Compound	Actual Amount in Pounds 1982	1983
Hexazinone *(Velpar)*	12.25	0
Iprodione	252.49	447.35
Isofenphos *(Oftanol)*	159.95	138.13
Lindane	22.53	50.94
Linuron *(Lorox)*	45	30
Malathion	1,285.88	954.26
Maneb	169.44	173.6
(Manzate 200 - Fore)	1,261.4	1,204.8
MCPP	445.5	602.48
Mercury Compounds	9.16	3.23
Metalaxyl *(Subdue)*	3.9	6
(Metasystox-R)	13	0
Methomyl *(Lannate)*	109.35	.02
Methoprene *(Altosid)*	0	0
Methoxychlor	2,359.73	1,477.8
Methyl Bromide	249	144
Metolachlor *(Dual)*	22,213.5	27,893.95
Metribuzin *(Sencor)*	4	12
Monuron *(Urox)*	0	183.34
MSVA	0	0
Naled *(Dibrom)*	0	17.5
Napropamide *(Devrinol)*	2	2
Oxamyl *(Vydate)*	761	618.25
Paraquat	239	170.5
Parathion	0	0
PCNB *(Teraclor)*	1,956.98	2,533.41
PCP	254.28	0
Pendimethalin *(Prowl)*	114	72
Permethrin	.5	2.3
Phosalone *(Zolone)*	421.88	0
Phosmet *(Imidan)*	2,710.97	1,545.1
Picloram *(Tordon)*	911.36	296.06
Pival	.025	0
(Polyram)	180	349.5
Profluralin *(Tolban)*	164	0
Prometon *(Atratol, Pramitol)*	105.7	50.9
Propargite *(Omite)*	0	0
Propetamphos *(Safrotin)*	0	8
Propoxur *(Baygon)*	30.94	37.81
Pyrethrum	91.67	4.54
Ronnel	0	0
Rotenone	8.38	0
Siduron	199.96	32
Simazine *(Princep)*	5,136.4	1,836.04
Sodium Floride	6,082.14	1.94
Tebuthiuron *(Spike)*	320	0
Thiophanate	167.8	152.05
Thiram	582.87	588.54
Triadimefon	19.66	52.47
Trichlorfon *(Proxol, Dylox)*	44.8	172.8
Triclopyr *(Garlon)*	1,766.89	1,316.25
Trifluralin *(Treflan)*	2.05	0
(Vapam)	337.9	0
(Vorlex)	210	0
Warfarin	.25	.38
Zinc Phosphide	265.05	314.5
Zineb	20.63	28.88
2,4-D	6,155.65	3,423.68
2,4-DB *(Butyrac)*	76.5	40
2,4,5-TP *(Silvex)*	0	0

The second grant is the enforcement grant. This program was initiated in 1979 with the aid of federal funds, which enables the department to enforce state and federal pesticide laws and regulations. Under this program, investigations are conducted to assure proper use of pesticides. In addition, all complaints or concerns are investigated to determine if violations have occurred and appropriate action is taken accordingly.

Other activities conducted under this grant involve inspections of retail, wholesale and producer establishments handling pesticides. We also conduct U.S. Customs port visits to keep the Customs officials informed of federal requirements regarding pesticide imports.

In conjunction with the investigations and inspections, physical samples are collected and analyzed in the department's pesticide laboratory which was developed and is implemented under this grant. The physical samples consist of pesticide formulation, dilution, and residue (water, soil, vegetation) samples. Samples are analyzed for product quality and the residue samples are analyzed to determine the presence of pesticides. This grant enabled the department to purchase the necessary analytical equipment for pesticide analysis.

In addition, during the last biennium, Public Act No. 148 changed the department's role in regulating pesticides as hazardous waste. The department had been charged with implementing its own set of regulations to govern pesticides as hazardous wastes; but because of this change, the commissioner is now responsible and has the authority to implement the Agency of Environmental Conservation's regulations governing hazardous wastes as they pertain to pesticides. The statute further states that the secretary shall not promulgate regulations which are more stringent than the standards and recommended requirements under sub-section (3) of the Resource Conservation and Recovery Act of 1976 without concurrence of the Commissioner of Agriculture. This is a major change by requiring the department implement regulations drafted by another agency as the regulations pertain to pesticides.

Pesticide Regulations

During the biennium, the division revised the Regulations for Control of Pesticides. Major changes to the regulations included the inclusion of language allowing inspectors to issue cease and desist orders. A requirement that utilities conducting other than ballast or soil sterilant work to develop long-term vegetative management plans so that their individual permit applications may be reviewed against long-term goals. They also include the standardization and predictability of newspaper advertising for utilities performing right-of-way spraying by specifying those newspapers for each county and if daily papers, that the notification must be published on Thursdays. In order to inform the citizens of Vermont about the change in newspaper advertising for the right-of-way spraying program, the department developed a PSA which was aired on all TV stations in Vermont telling people to contact the department via the 800 number if they wanted to know which newspapers were being used for their individual counties. Those regulation changes became effective April 16, 1984.

Petitions

On May 9, 1983, the Department of Agriculture was presented a petition signed by George Hamilton, Director, Vermont Public Interest Research Group (VPIRG), asking us to adopt the following three policies under the Department's Administrative Rules pursuant to 3 V.S.A. Section 806:

1. Homeowners living along or adjacent to a railroad or utility right-of-way which is to be sprayed shall be personally notified in advance of where, when, and how the spraying is to occur.

2. All herbicides containing the chemicals 2,4-D and/or Picloram (e.g., TORDON, AMDON, etc.) shall be banned from use in the state.

3. Non-spraying alternatives, such as vegetative management or manual cutting, shall be made available to homeowners living along or adjacent to railroad or utility rights-of-way upon request.

The petitioners stated they would be willing to participate in rule-making hearings and to assist the department in any way that they could with respect to the policies listed above. In addition, under the section on non-spraying alternatives the petitioners stated: "Input from citizens should be actively solicited. All information should be thoroughly examined."

The department was in full concurrence that with an issue as controversial as herbicide application along rights-of-way and with the voluminous amount of information that exists in today's society about pesticides, their environmental fate, acute toxicity and subchronic effects, the department should solicit as much public input as possible in reaching its decision.

For this reason, the department immediately scheduled a fact finding hearing on May 25 in order to gather facts necessary to decide the merits of the case. The department, as required by statute, asked the Vermont Pesticide Advisory Council (VPAC) to be a participant in the hearing process and then to weigh the evidence and make recommendations to the commissioner on the merits of the petition. The council met on May 31, discussed the merits of the petition and made recommendations to the commissioner on the disposition. In addition, because of the five hours of testimony recorded from the public hearing and other evidence presented prior to, during and after the fact finding hearing, along with the testimony presented at the VPAC meeting, the department requested a delay of 15 days in responding to the petition from VPIRG. VPIRG placed conditions on the delay which were unacceptable, discussions broke off, and the department responded by June 8, 1983, by denying the policy requests in the petition and by initiating the following changes as a result of information gathered during the hearing process:

1. Amend the regulations to require the name of the department and telephone number for a contact for concerned people in all newspaper, radio, and fliers used for personal notification.

2. Explore the possibility of amending the regulations to require newspaper announcements to be placed similar to the manner in which the notice for state regulations is issued in the papers.

3. Propose a regulation to require personal notification for individuals living a set distance from the rights-of-way being maintained as a result of easements.

4. Because of the amount of rain we have had in the past 30 days, 6½ as compared to the usual 3 inches, we will ask individual utilities to voluntarily comply with a 30-day moratorium on the use of Tordon 101 and Amdon 101 as foliar applications. Use of these active ingredients as single stump treatments or injections still appears appropriate. If the amount of precipitation continues above normal for this period, we will request the moratorium to be continued for the spray season. This request is based on the amount of surface water that exists in Vermont this year. Most utilities have alternative chemicals approved for use by the Council already. For those that don't, we are willing to work with them independently to solve their problems.

5. Expand the department's current monitoring system for picloram. The New York State utilities are developing a soil profile computer model for picloram breakdown against which we should be able to verify our analyzed results for the presence or absence of picloram residues over time.

6. Request of our congressional delegation that they carefully review the EPA budget for the pesticide program and add sufficient funding to see that the agency can respond to the states' needs in these areas.

   a. Provide staff to respond to states' needs on the status of individual product registrations, the status of data gaps, and the significance of those gaps. Three weeks ago, we requested data from EPA on the health effects of picloram in relation to the IBT incident from which we have received no written response. The IBT incident is an example of this problem which must be corrected so that states will have the technical data necessary to regulate pesticides for their jurisdictions.

   b. Increase the research budget for pesticides but also make sure that copies of the research findings are being sent to the individual states for use. For example, EPA contracted with TRW under EPA Contract No. 68-02-3174 for a thorough literature review of the "Environmental Fates and Impacts of Major Forest Use Pesticides" which was issued in December 1981. The department had to write TRW and ask for a copy of this 500-page document because we could not get a copy of it from EPA. This does not appear to be an isolated incident.

   c. Provide a small sum of money to fund Section 20, the monitoring section of the federal law. This funding should establish a competitive grants program to provide monitoring so that the states can answer some of the questions necessary to properly regulate pesticides. Grants would not have to be large. A $10,000 grant many times makes the difference between success or failure of the program. As a complement to this, EPA should establish a clearinghouse for such monitoring data so that every state does not have to reinvent the wheel. The computerization of this and other pesticide data could make the data readily available to the states if EPA would establish such a program.

7. Propose a regulation to require utilities maintaining rights-of-way via easements to develop vegetative management plans prior to receiving a permit in 1984 and having an approved plan prior to receiving a permit in 1985.

On June 15, 1983, the Vermont Public Interest Research Group, under the signature of George Hamilton, again petitioned the department to adopt the following two policies pursuant to 3 V.S.A. Section 806:

1. All herbicides containing the chemicals 2,4-D and/or picloram (e.g., Tordon, Amdon, etc.) shall be suspended from use in the state until the following information has been reviewed by the Department of Agriculture: The Five Rivers Health Study, the imminient [sic] decision of Victoria Palmer, et al v. Steora Kopparbergf Bergslags Akpiebolag and additional data on the chronic effects of picloram.

2. Non-spraying alternatives, such as vegetative management or manual cutting, should be made available to homeowners living along or adjacent to the rights-of-way upon request.

After reviewing the petition, the department determined that the second policy request of the June 15, 1983 petition was identical to the third policy request of the May 9, 1983 petition which the department determined had been fully responded to in our June 8, 1983 response. We, therefore, refuse to promulgate this policy pursuant to 3 V.S.A. §806. Our original position is further supported by the Public Service Board Order dated June 22, 1983, and signed by V. Louise McCarren instructing John P. Bentley, Esq., to conduct an investigation into utility right-of-way maintenance, pursuant to 30 V.S.A. §203 and §209(a)(3). Non-spraying alternatives were specifically identified as an issue to be explored in the investigation.

The department did decide that the first policy request of June 15, 1983 was substantially different than the second policy request of May 9, 1983 and agreed to act on this request.

George Hamilton stated during discussions on the new petition that his group wanted an opportunity to present expert testimony on the pesticides 2,4-D and picloram. The Department agreed to this request and scheduled a pre-hearing conference for July 22, 1983, in order to work out a format for the hearing. Two and a half days of technical hearings were conducted on August 30 through September 1, 1983, in order to clarify and substantiate the pre-filed testimony which had been filed by the experts testifying in the case. It was agreed that papers, etc., referred to in the hearings would be filed by September 16 and any party would have until September 23 to object to any filing. It was further agreed that briefs, if filed, could be optional. The deadline for briefs was delayed several times because of a delay in getting the hearing transcript, with a final date for briefs being November 12 and a response by the Commissioner on or prior to December 16.

As with the previous petition, the council met and advised the commissioner on a course of action on November 16, 1983. On December 16, 1983, the response to the June 15 petition was as follows:

At this time, the department agrees with the position of the members of the Vermont Pesticide Advisory Council

and must deny the first policy requested in the June 15 petition. After reviewing all of the evidence, the department is convinced that its decision of June 8, risk management through the permit system, was the appropriate action. We, therefore, will continue to implement the seven actions in the original response with continued emphasis for the following actions to better manage and understand pesticide degradation in Vermont.

1. Place moratoriums on the use of picloram during heavy periods of precipitation;

2. Monitor for picloram and other pesticides in our environment in order to achieve sound regulatory policy; and,

3. Continue to request of our congressional delegation that they carefully review the EPA budget for the pesticide program and add sufficient funding to see that the agency can respond to the states' needs in these areas:

   a. Provide staff to respond to states' needs on the status of individual product registrations, the status of data gaps, and the significance of those gaps.

   b. Increase the research budget for pesticides but also make sure that copies of the research findings are being sent to the individual states for use.

   c. Provide a small sum of money to fund Section 20, the monitoring section of the federal law.

The department must base its decision on information it has available at the time. If new studies indicate potential problems which appear unmanageable and which would result in health effects for applications or the general public, the department will initiate hearings to suspend or cancel those uses or products in Vermont.

Pesticide Registration

Pesticides sold in Vermont are registered annually for the period December 1 through November 30 inclusive. Division activities include inspection of retail outlets to assure products offered for sale are registered with the U.S. EPA and the Vermont Department of Agriculture as required. Registrations issued are as follows:

	1983	1984
Companies	499	485
Products	5,388	4,521

At the time of store inspections, 143 stop sale orders were issued for improper materials in 1983, and 84 stop sale orders were issued in 1984.

Ornamentals Pest Short Course

In response to numerous inquiries for indepth coverage of many disease and insect problems encountered by the state's landscape and nursery businessmen, the Vermont Department of Agriculture and the University of Vermont coordinated a two-day pest short course held on April 4 and 5, 1984. The course offered presentations by prominent plant pathologists and entomologists from the Northeast. Speakers from Cornell University, SUNY at Syracuse, the Universities of Vermont and New Hampshire, and the U.S. Forest Service, as well as the Vermont Departments of Agriculture and Forests, Parks, and Recreation, presented information to audiences of nearly 80 persons each day. The short course was approved for commercial and private applicator recertification.

From the Ground Up

In February, 1984, the Plant Industry Division created a news column entitled "From the Ground Up — Plant Industry Topics." Developed as bi-monthly feature for Vermont newspapers, the column presents information to the public concerning the non-livestock related aspect of the Agriculture Department. Articles on various crops, pest control, horticulture, beekeeping, and pesticide usage have been among the features to date. Thirteen newspapers in the state print the column, while several others monitor the articles for agricultural news topics.

Crucifer Disease Survey

During the growing season of 1981, commercial growers of crucifers (cabbage, broccoli, cauliflower and certain others) experienced substantial losses to a bacterial disease known as black rot. The bacterium responsible for this disease, *Xanthomonas campestris,* is known to be seed transmitted. With this fact in mind, seed from commercial and non-commercial seed lots were collected for laboratory bioassay. Seeds were assayed in 1982 and again in 1983 to determine the extent of infestation. Up to 25 percent of the seed lots tested were contaminated with the bacterium, which is frequently the primary means of introducing this pathogen into production fields. As a result of the survey and subsequent follow-ups, many growers in the state are now eliminating the seed-borne introduction of the pathogen by hot water treatments.

Red Stele Root Rot Survey

Red stele root rot is considered the major disease of strawberries grown in cool, moist soils of northern climates. The disease is caused by the water mold, *Phytophthora fragariae,* and is of particular importance because of the causal organism's ability to survive in the soil for at least a decade. Most soil fungicides or biocides are ineffective in controlling the fungus once established. With the increasing importance of strawberries in Vermont, and the prevalence of conditions favorable for red stele root rot to occur, a field survey was undertaken in the spring of 1984.

Visual manifestations of the disease were found in 50 percent of surveyed plantings. Of those infested fields, 80 percent were determined to have the potential for serious production problems. The survey suggested that all soils conducive to red stele root rot do not necessarily result in disease losses. Raised beds and crop rotations were evidently the most important factors in reducing or eliminating crop damage, indicating that good production practices are important. The effectiveness of red stele-resistant strawberry cultivars as a means of reducing damage was not evaluated, but certain varieties reported to be resistant, notably "Sparkle" and "Midway," were found infected. This susceptibility may be in part due to the presence of ten *P. fragariae* races known to occur in the U.S. Efforts were undertaken during the biennium to reduce the spread of infected nursery plants, the most common means of disseminating the pathogen.

Cultivation of Exotic Mushrooms

The Shiitake mushroom, *Lentinus edodes,* is a major agricultural export commodity of Japan, generating a reported $1.1 billion in retail sales in 1978. The species has been commercially cultivated in that country since the 1940's, although the Shiitake has been cultured in certain parts of Asia for centuries.

Lentinus edodes differs from the more common chapignon mushroom, *Agaricus bisporus,* in that the Shiitake is cultivated on logs of several hardwood tree species, while the latter is produced on composted organic materials. While the Shiitake mushroom is still relatively unknown in the United States, markets are believed to exist, depending on increased availability of the product for market expansion.

Vermont is presently reported to be 83 percent forested, with much of the land being held by individuals seeking new methods of increasing utilization and income. The abundance of hardwood species in Vermont and the comparatively low production start-up costs for Shiitake mushroom suggest that forest mushroom species such as *Lentinus edodes* may have a place in the state's agricultural industry. The oyster mushroom, *Pleurotus* sp.; wood's ear mushroom, *Auricularia* sp.; jelly fungus, *Tremella* sp.; and winter mushroom, *Flamulina velutipes,* are among the other mushrooms which may be produced on logs. Their respective roles are not presently being evaluated in Vermont.

The goals of the present survey are as follows:

1. To determine differences in *Lentinus edodes* strain responses to cultivation in Vermont;

2. To evaluate productivity of certain native, abundant tree species as a substitute for the various strains of mushroom; and,

3. To test two different log innoculation techniques, the standard plug innoculation, and the more recently developed spawn disk method.

Scientists at the USDA Agricultural Research Center and the Campbell Institute for Research and Technology have provided valuable expertise in establishing the pioneer project.

American Ginseng Management Program

In 1975, Congress entered into an international trade agreement, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), in an effort to protect certain wildlife species. As a result of the treaty, the U.S. Fish and Wildlife Service was authorized by Congress to require individual states to develop management plans for any listed species those states wished to export. American ginseng, *Panax quinquefolius,* a plant species whose status had not been determined in Vermont, was included on that list.

In order to comply with federal requirements, the Agriculture Department conducted field surveys and literature reviews, also interviewing knowledgeable persons, to determine the plant's status in Vermont. This information was assembled by a survey technician, funded by the Mellon Undergraduate Research Grants Committee through the University of Vermont, working in cooperation with the Department Plant Pathologist.

Actual field survey began in June 1983 with the participation of 21 ginseng collectors and field botanists. Thirty-six field trips were conducted during the survey. The results of the survey, historical and other information were presented to the U.S. Department of Interior Fish and Wildlife Service in a report entitled "American Ginseng in Vermont." The report summarized information on population of *P. quinquefolius* in the state and information on the biology of the species. Management of American ginseng in part involved establishing a harvest season, certification procedures and establishing a monitoring program. Export approval was pending at the close of the biennium.

Scleroderris Canker Quarantine

The state quarantine for Scleroderris canker, caused by the fungus *Gremmeniella abietina* remained unchanged during the biennium. One inspector was hired each summer for ten weeks to survey Christmas tree plantations shipping pine species from the regulated area. Inspection certificates were given for trees found free of the disease.

During 1982, six counties from which pine Christmas trees and nursery stock were to be shipped were inspected for the Scleroderris canker disease. Fifty-seven pine plantations were inspected on a row-by-row basis. An additional 46 plantations, totaling approximately 100 acres were surveyed in 14 towns bordering the quarantine zone. No new infestations were found.

In 1983, 28 towns in six of the regulated counties were surveyed. Two plantations in Eden Mills and one plantation in Craftsbury were found infested and the trees quarantined according to regulations. Seventy-five additional pine plantations outside the regulated area were surveyed, but no new infestations were determined.

Several inquiries were made concerning the need for exterior quarantines by other states, but no actions were known to have been taken. Vermont intends to continue enforcement for the current interior quarantine as long as necessary to protect the out-of-state market situation for Vermont Christmas trees and nursery stock.

During the fall of 1983, selected pine plantations were re-surveyed in an attempt to reduce the size of the regulated area. Silvicultural controls of certain plantations appear feasible if certain manpower needs can be addressed.

Nursery Certification Program

One hundred eighty-one nurseries and greenhouses were inspected and certified in 1982. Nursery stock dealer's certificates were issued to 287 outlets. Nursery stock was produced on approximately 345 acres. Greenhouse production involved approximately 465,000 square feet under glass or plastic.

All nursery stock sold or offered for sale in Vermont must be state-inspected under Title 6 of the Vermont Statutes Annotated, Sections 1121-1128. Nursery stock, by definition, includes florist crops (except cut flowers) as well as woody or herbaceous plants.

The department continues its rigorous inspection program for plants grown in or imported into Vermont. The program is continuing to offer more technical assistance to growers and plant dealers. Accurate identification of pest problems, notification of suppliers shipping poor quality stock, condemnation of infested stock and the development of Vermont's own quality wholesale plant production industry are major foci of our program. The number

of nurseries and greenhouses inspected and certified in 1983 increased slightly to 214 growers. Nursery dealer's certificates were issued to 276 outlets. Three hundred twenty-one acres of nursery stock were inspected, and over 516,000 square feet of greenhouse production area were surveyed.

During the biennium new legislation was sponsored by the Vermont Plantsmen's Association, Inc., the state's non-profit professional trade association of nurserymen, greenhouse managers, arborists and related horticulturists. The nursery inspection bill would have provided for a more enforceable, understandable set of regulations for the industry. The bill also addressed advances in horticultural and diagnostic technology not available when the original bill was introduced.

Potato Variety Trials

The Vermont Department of Agriculture jointly conducted potato variety trials in 1982 and 1983 with the University of New Hampshire. The Agriculture Department has participated in the trials since 1961.

In 1982, 19 potato varieties were grown at Guildhall, Vermont. Seedling BR5991-WV16 was the highest yielding variety, followed by Kennebec, Chippewa, CF7523-1 and F73008.

Variety trials in 1983, also held at Guildhall, included 18 varieties. Seedling CF74135-3, WF564-3, CF7523-1, Rosa, Hampton, NY59 and Kennebec were the six highest yielding varieties.

The evaluation of new potato varieties has been successful, especially in the search for new early varieties. Growers in the state are eager to have potatoes earlier in the season when prices are highest.

Vermont Plantsmen's Promotion Board, Inc.

The Vermont Department of Agriculture was instrumental in helping professional horticulturists develop a promotion board during the biennium. On February 21, 1983, the Vermont Plantsmen's Promotion Board became incorporated in the state. The by-laws of the organization state a purpose as "to plan, develop, and execute an effective promotional program designed to increase the sale and utilization of Vermont-grown plants and horticultural services."

The board has been effective in making consumers aware of Vermont-grown quality through the use of television and radio ads and plant tags and stakes displaying the Vermont-grown logo and certain other activities.

State Vegetable Contest

The Vermont Department of Agriculture coordinated a vegetable contest in the spring and early summer of 1983 as a means of promoting the state's increasing vegetable production. The contest was sponsored by grower organizations including the Vermont Small Fruit and Vegetable Growers' Association, the Vermont Plantsmen's Association, the Vermont Federation of Farmers' Markets, the Vermont Small Fruit and Vegetable Growers' Promotion Board and the Vermont Department of Education.

Ballots were distributed through retail outlets of participants. An essay contest was conducted through the state school system.

Although the results of the vote will be non-binding, the final tabulation will be presented to the State Legislature for consideration as the State Vegetable.

Pest Survey and Detection

During the biennium, the Vermont Department of Agriculture entered into a Cooperative Agreement with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine. The agreement is part of the National Plant Pest Survey and Detection Program and will aid in the development of a statewide, computer-based system for collecting, storing and retrieving pest survey data by cooperating agencies. This program is essential in order to develop and upgrade the present program, allowing all participants to collect, store and retrieve pest survey data. It will also improve and standardize methods for reporting, detection or measurement of economic domestic and exotic plant pests. Anticipated benefits of this program include:

1. Aid in the development of standard pest reporting forms and code booklets.
2. Standardization of survey and detection methods within and between states.
3. Make available survey and detection data from other state and federal agencies.
4. Development of software to compile and permanently store existing and future survey data.
5. Provide a database for predicting future pest populations.
6. Certify locations of quarantined areas for regulatory purposes.
7. Setting up a network for detecting exotic plant pests.
8. Training of field personnel in pest survey and detection methodology.

During the biennium, Plant Industry personnel became involved in foreign pest detection. The insects that were monitored and surveyed included: plum fruit moth (*Cydia funebrana*), European grapevine moth (*Lobesia botrana*), Summer fruit tortrix (*Adoxophytes orana*) and European cherry fruit fly (*Rhagoletis cerasi*). In addition to the above pests, the apple sucker (*Psylla mali*) was first detected in June 1983 in four counties and in five counties during June 1984. This was a new state record.

A rust disease caused by the fungus *Chrysomyxa weirii* was reported on *Picea pungens* in Vermont in 1982. The organism has previously been reported in limited areas of the U.S., including the Pacific Northwest, South Dakota, and southern Appalachia.

Anthracnose, caused by *Gloesporium* sp., was widespread in 1983, causing defoliation of maples, ash and birch. Cold, wet conditions in the spring were thought responsible for the widespread disease. The situation was repeated through much of the state again in 1984.

Fir-fern rust of balsam fir, caused by *Uredinopsis mirabilis,* was responsible for widespread defoliation in Christmas tree plantations. Over 100 acres of moderate to heavy damage to Douglas fir Christmas trees was found in a Washington County plantation.

Rhizosphaera needlecast, a foliage disease of blue and white spruce caused by the fungus *Rhizosphaera kalkhoffi,*

was discovered causing serious problems in one nursery.

Black rot (black canker) of certain rosaceous plants continued to cause significant injury to overwintered nursery stock. Winter damaged tissues of apples, crabapples, mountain ash, willow and related species are subject to infection by the organism *Physalospora obtusa.*

The black vine weevil, *Otiorhynchus sulcatus,* was discovered on *Taxus* from Connecticut. Feeding injury was observed on *Rhododendron* and *Taxus* from other sources.

Phytophthora blight and root rot continue to be important diseases on important rhododendrons.

Cane diseases caused by *Elsinoe veneta* (anthracnose) and *Didymella applanata* (spur blight) were frequently found on raspberries throughout the state. A special local need (SLN) registration was obtained through EPA for a ferbam fungicide known to aid in control of the disease.

Two of the four major root rot organisms of pea (*Pisium*) were identified in growing areas. *Rhizoctonia solani* and *Fusarium solani* f.sp. *pisi* were cultured under laboratory conditions. Root rots are a major limiting factor in pea production in parts of the state.

Crown gall, caused by the bacterium *Agrobacterium tumefaciens,* was discovered in blueberry (*Vacinium*) and raspberry (*Rubus*) plants from Michigan.

Nematode survey conducted in the Fall of 1983 revealed populations of *Pratylenchus penetrans, P. crenatus, Tyenchorhynchus maximus, Xiphenema* sp., *Helicotylenchus* sp., *Psilenchus* sp., *Tylenchus* sp., and *Criconemella lobatum* and *hongidorus* sp. in apple, raspberry and turf production fields across the state.

Insects

Black Pineleaf Scale — *Nuculaspis californica*

A serious pest of western pine and Douglas fir was discovered on mugho pine in South Burlington. Severe damage to several ornamental mugho pines was recorded. It is suspected that the pest was imported from Oregon. Other ornamental pines in the immediate area are being monitored for potential invasion by this scale.

White Pine Weevil — *Pissodes strobi*

Damage by this weevil was evident throughout the state during the biennium. This weevil attacks the terminal shoot of white pine, eventually killing the terminal. This damage is of economic importance to nurserymen, Christmas tree growers and tree farmers. It was also found infesting Austrian pine in a commercial nursery.

A Plant Bug — *Lopidea robiniae*

This miridae was observed causing extensive damage to black locust leaflets. Feeding by this plant bug results in severe leaf distortion.

Locust Twig Borer — *Ecdytolopha insiticiana*

A twig borer of locust was recorded in the Putney area. Damage by this borer was widespread.

Garden Springtail — *Bourletiella hortensis*

Considerable damage was observed by this springtail on gladiolus. This is one of the very few springtails that are of economic importance.

Clearwinged Moth — *Synanthedon exitiosa*

This moth was found boring into the crowns of sand cherry in a commercial nursery yard. Infested plants were destroyed.

A Leafroller — *Exartema ferriferanum*

This leafroller was collected on hydrangea in Barre City. This insect does little damage to the plant but does render them rather unsightly.

A Stink Bug — *Cosmopepla bimaculata*

Extensive damage on snapdragon was recorded in Post Mills. Feeding by this stink bug renders the plants unsaleable.

Mossy Rose Gall Wasp — *Diplolepis rosae*

This gall-forming wasp was collected in a commercial nursery.

Pine thrips — *Gnophothrips* sp.

These thrips were observed in a commercial planting of Scots pine. Damage included needle distortion, stunting and swelling.

Balsam Gall Midge — *Paradiplosis tumifex*

This tiny midge continues to plague many balsam fir Christmas tree growers. Damage by this midge causes needle swelling (gall formation), browning and eventual loss of these needles (about the time the tree is to be sold). Plant Industry has been involved in a time trial study over the biennium. The purpose of this study was to determine the proper time of chemical application to control this economic pest. Timing of application is determined by bud length. Results were very encouraging.

An Egg Parasite — *Platygaster maniensis*

This egg parasite was found in abundance in 1983 and 1984. This tiny wasp is a parasite of the balsam gal midge. Unfortunately, this parasite does not kill its host until the midge and gall are fully developed. Needles are still shed and the tree is unmarketable for another year.

Locust Leafminer — *Odontata dorsalis*

The leafmining beetle continues to expand its range throughout the state. Areas severely defoliated are in Chittenden, Windsor and Windham counties.

Japanese Beetle — *Popilla japonica*

Damage by this beetle continues to be a nightmare for some Vermont communities. Both adult and larval feeding damage is of economic importance.

Fletcher Scale — *Lecanium fletcheri*

An important pest of *Taxus,* this scale causes leaf discoloration and loss in plant vigor. Heavy population can also cause twig dieback. This is one of the major imported pests of *Taxus.*

A Plant Bug — *Orthops scutellaris*

This pest was found feeding extensively on a commercial planting of dill in Windsor County. Feeding by this miriad caused distortion and dieback of dill and the plants could not be sold.

Chinch Bug — *Blissus leucopterus*

A devastating turfgrass pest continues to increase its range throughout Vermont. Areas where severe damage

was recorded include Brattleboro, Poultney, Barre, Montpelier, Bennington, Colchester, Essex and Burlington.

Bruce Spanworm — *Operophtera bruceata*

This defoliator was of major concern to many sugarmakers. Some sugarbushes were sprayed with carbaryl or B.t. during the biennium.

Other popular homeowner inquiries included:

Carpenter Ants (#1)
European Earwigs
Colorado Potato Beetle
Mt. Ash Sawfly
Fleas
Cluster Flies
Powder Post Beetles
Carpet Beetles
Japanese Beetles
Chinch Bugs
Birch Leafminer
Gypsy Moth
Many others too numerous to name

Integrated Pest Management

During the biennium, a pilot IPM demonstration was established for cabbage, cauliflower and broccoli. The purpose of this project was to assist farmers in monitoring of certain insect pests to determine when control measures were necessary. This would eventually lead to a premium quality crop.

The insects involved in this study were:

1. Cabbage maggot, a devastating maggot that feeds on root systems of the crucifers.

2. Cabbage looper, this insect does not overwinter in Vermont and must be monitored for in order to determine its presence.

3. Imported cabbage worm.

4. Diamondback moth.

In order to monitor cabbage maggot populations, yellow pan traps baited with allyl isothiocyanate were placed in the farmer's field and weekly population counts were made. When maggot flies were trapped, the cooperator knew it was time to protect his crop with the proper chemical application.

Looper populations were monitored through the use of pheromone traps. Diamondback moth and imported cabbageworm populations were determined by actual counts done throughout the crucifer fields. When 15-20% of the plants were infested, a recommendation to control would be made. Grower enthusiasm for this program was encouraging.

Other pest populations monitored were: corn earworm (pheromone trap), European corn borer (field counts), tarnished plant bugs, early and late blight, strawberry weevil and balsam gall midge (yellow sticky-boards). Recommendations for control were based on monitoring data.

Arthropod Control

During the biennium, the Plant Industry Division continued to provide technical assistance and survey activities to many Vermont towns, districts, clubs, resort areas and individuals on arthropod control. This includes mosquitoes and blackflies. Activities include mapping of potential breeding areas, pest identification, applicator training, control recommendations and pesticide efficacy trials.

In the spring of 1983 and in a joint effort with Water Resources, b.t.i. (*Bacillus thuringiensis* var. *israelensis*) was applied to the Valley Lake outlet near Woodbury Lake. This study was to determine the effects of b.t.i. on nontarget organisms. The bentlic community was sampled one day prior to application and again three days after application. These samples were taken 40 meters downstream from the point of application. The overall results of this study showed three significant changes in the insect community. The order Trichoptera (caddie flies) increased in numbers by 33 percent. The family Chironomidae, however, was reduced by 66 percent. This decrease in Chironomid populations was also reflected in the overall insect population decrease of 30 percent. These results will be studied further to determine whether or not blackfly control can be accomplished without harm to fish populations in these streams.

During the biennium, efficacy of several formulations of b.t.i. were tested. B.t.i. is the material of choice due to its host specificity, rapid decomposition rate and its proven safety with humans. Formulations tested were flowables, wettable powders, granules and briquets.

Cluster Flies

Cluster flies are parasitic flies that invade homes, businesses and hospitals each year to overwinter. The cluster fly spends the majority of its life cycle outside as an earthworm parasite and does not pose any problems to humans until the fall when it seeks shelter for the winter. As a result, these large flies become a major nuisance to households and businesses alike.

In many hospitals, the nuisance from these flies is unacceptable. In order to combat this problem, a program was developed at Cornell University and a pilot project was initiated here in Vermont by the Plant Industry Division in late summer of 1983 (mid-August). Central Vermont Hospital and Mary Hitchcock Hospital were the two hospitals that agreed to try this new development. The entire outer surfaces of these hospitals were sprayed with the use of barn foggers and a product called Ectiban E.C. Every nook and cranny was sprayed. Applying a prophylactic spray to the entire building would kill any flies resting or trying to enter the premises. Participants in this project were extremely pleased with the results and plan on continuing this program in the future. Several other hospitals and businesses expect to participate in cluster fly control in 1984 as a result of the 1983 pilot project.

Gypsy Moth Federal Domestic Quarantine

New infestations of gypsy moth are being found each year far from the quarantined areas of the northeastern states. Recent research by the U.S. Forest Service and Animal and Plant Health Inspection Service (APHIS) of the USDA has shown that most of these infestations are the result of gypsy moth life stages moving on household articles used and/or stored outside. As a result of this research, APHIS recently amended the gypsy moth quarantine to include a regulation to prevent the interstate movement of the gypsy moth on household articles.

As of October 3, 1983, the Gypsy Moth Federal Domestic Quarantine required that shipments of outdoor household articles from high-risk areas must be free from all life stages (eggs, larva, pupa, adult). High-risk areas in Vermont (each covering an entire county) are as follows: Addison County, Bennington County, Chittenden County, Franklin County, Grand Isle County, Rutland County, Windham County and Windsor County. Low-risk areas (also covering an entire county) are as follows: Caledonia County, Essex County, Lamoille County, Orange County, Orleans County and Washington County. This regulation only affects individuals moving from the high-risk areas of Vermont to non-regulated areas of other states.

Homeowners are responsible for making sure their outdoor items are inspected. The inspection may be done by a USDA certified inspector on a fee basis or by the homeowners themselves. Liability of fines and/or additional fees will be on the individual doing the inspection. Some moving firms will not accept a homeowner inspection and will require a certified inspector's certificate.

In order to comply with this new quarantine, it will be necessary that trained and certified inspectors be available to the general public. During the biennium, the Plant Industry Division took the leading role, trained individuals throughout the state and certified that they would provide such a service. To date, there have been no problems with this quarantine.

Apiary Program

The U.S. beekeeping industry in 1983 and 1984 was pushed into what looks to be a long struggle for its survival. Beekeepers are faced with three major problems:

1. Low-priced imported honey.
2. Parasitic bee mites.
3. The Africanized-Brazilian Bee.

Imported Honey

In 1983, approximately 100 million pounds of honey was imported into the United States. Because of the strong U.S. dollar and cheap foreign labor, foreign honey bulk prices have dropped to as low as 33 cents per pound. Domestic beekeepers that cannot compete with the foreign honey prices have been forced to sell to the U.S. Commodity Credit Corporation at support prices of 54 to 69 cents per pound.

During the last two years, the amount of honey imported and the amount sold to the government are about equal. When the government support prices are dropped, which is inevitable, it appears that some beekeepers will go out of business.

Until recently, Vermont honey producers have been exempt from this foreign honey problem. Vermont honey, similar to Vermont maple, has a "mystique" that keeps it in demand for the tourist trade. When people visit Vermont, they want to take home some Vermont maple syrup or Vermont honey. This coveted Vermont name and the fact that Vermont honey is of a very fine quality has kept Vermont bulk prices up between 60 to 70 cents per pound. As could be expected, these stable prices have attracted more people into the business of packing Vermont honey. It is also no surprise that some of the honey packers are packing cheap foreign honey and using the Vermont name to sell it. These honey packers are cutting into the Vermont market and making it harder for Vermont honey producers to sell their product.

Foreign honey producers and rich honey packers are not encouraging the growth of Vermont agriculture. They are not increasing Vermont honey production and more importantly, they are not pollinating Vermont apples or small fruits and vegetables. They are simply making money by fraudulently labeling honey.

This is not specific to the honey industry. The maple industry is in a similar situation but it is a little more complicated. Some Canadian maple is being sold with the implication that it is Vermont syrup. A few maple packers feel that this practice has given Vermont syrup more exposure and has kept the so-called Vermont maple on the shelves when Vermont producers could not keep up with the demand. Others feel (mostly producers) that this practice has kept bulk maple prices down and perhaps is suppressing the growth of the Vermont maple industry.

No matter who is in the right or wrong, the improper labeling of honey and maple is coming to an end. As of October, 1983, a new Customs ruling was enacted that states that any product coming into the U.S. must be labeled to identify the country of origin to the consumer. Customs has been encouraged by the Vermont Beekeepers' Association and some Vermont sugarmakers to enforce this ruling.

We also hope to maintain and possibly increase the demand for Vermont honey through promotional campaigns. The Seal of Quality program helps identify Vermont products and encourage people to support Vermont agriculture. There are 13 honey producers that use the Seal.

A Vermont Honey Promotion Board was formed in 1983. Promotional activities sponsored by the Board have included a honey television commercial, a honey poster that is used to identify stores that sell Vermont honey, a small honey recipe booklet that can be attached to the honey jar and a generic Vermont honey label.

Parasitic Bee Mite

On July 6, 1984, the acarine mite was found in Texas near the Mexican border. This parasitic bee mite lives in the adult bee's breathing tubes where it weakens and eventually kills it. These mites will be most serious in the north where any added stress to a colony could cause increased winterkill.

On July 1, 1983, a revised apiary law took effect. This law was rewritten mainly to give the Vermont Department of Agriculture the authority to control the acarine and varroa mites.

Samples of bees were taken in 1983 but no mites were found. Vermont imported at least 150 packages of bees from Texas in the Spring of 1984. Therefore, the samples will continue to be taken and the Commissioner will enact the necessary quarantines on the state or states that are infested with the mite.

The acarine mite is a small problem compared to the varroa mite that infests the larvae and the adult stages of the bee. United States beekeepers never before experienced a bigger threat to the industry as the varroa mite. The varroa mite is now in South America, migrating northward on the Africanized-Brazilian bee. In July of 1984, a swarm of Africanized bees infested with the varroa mite was found on a ship that came from Brazil up the St. Lawrence to Chicago. The bees and mites were destroyed.

Africanized-Brazilian Bees

The Africanized-Brazilian Bee (AB) is now in Panama,

migrating northward at a rate of 200 miles a year. They are expected to reach Texas by 1990. These aggressive bees do not overwinter well, assumedly leaving Vermont in the clear. Unfortunately, Vermont will be affected by the AB in that package and queen raising areas will be quarantined which will increase the price on queens and bees coming from unquarantined areas. More important, the public will be instilled with a new fear of bees, making it hard to find places to keep bees.

Through the Vermont Beekeepers' Association, an effort has been made to educate the beekeepers on the AB problem. Workshops have also been given on raising queens.

American Foulbrood

The disease rate (American Foulbrood) was down from 3.3% (166 hives) in 1982 to 2.3% (107 hives), out of 4,652 inspected in 1983. The number of apiaries with American Foulbrood (AFB) was 59 out of 977 inspected, about the same as 1982. Twenty of these apiaries previously had AFB, while there were 39 new infestations. Eighty-three hives were burned, 24 were treated. In 1984, 4,600 hives were inspected; 95 hives had AFB; 900 apiaries were inspected.

In the Spring of 1983, nine beekeepers sent in 55 samples of bees to be checked for nosema. Twenty-five of the samples contained varying amounts of nosema spores, indicating that nosema is a problem in Vermont.

Bears

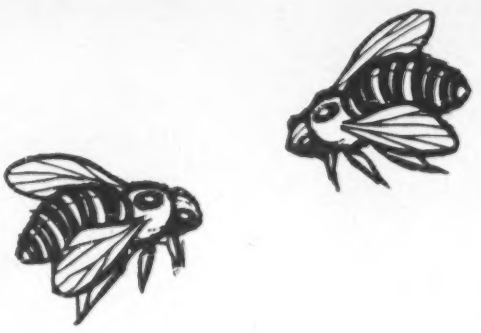
Listed below is the amount of damage caused by bears to beehives as reported by the Vermont Fish and Game Department:

1961 —	$292.00	1975 —	$123.00	1980 —	$1,543.00
1964 —	$143.00	1976 —	$225.00	1981 —	$1,846.00
1966 —	$10.00	1977 —	$144.00	1982 —	$2,466.00
1973 —	$62.00	1978 —	$969.00	1983 —	$411.00
1974 —	$622.00	1979 —	$1,131.00		

Honey Crop

In February and March of 1983, we had a warm spell that abnormally stimulated brood rearing. During the first week of March, an average of four frames of brood was found in fifteen hives indicating an early beginning for brood rearing. A lot of honey was used up for this early brood rearing, causing many hives belonging mostly to hobbyists to starve.

In April and May, there were record rains causing a record number of hives to swarm in June. June was hot and humid, perfect honey weather. The blackberry bloomed like never before, producing a super of honey in many areas. The vetch, trefoil and clover flows were average. The clover flow in Addison County was disappointing. Southern Vermont got a noticeable Black Locust flow. Then came July and it dried up in both the Connecticut and the Champlain Valleys. The mountain areas got some rain and produced record crops. One beekeeper in Johnson reported making over 150 pounds of honey off one hive. In the valleys, the drought stunted the alfalfa so the farmers did not cut it, waiting for more growth. Around the middle of August, the rains came along with the alfalfa bloom giving the Champlain Valley beekeepers an average crop of 50-60 pounds of honey per hive. The good alfalfa and goldenrod flows made the hives extra heavy for the winter. Most hives came through the winter extremely strong, similar to the previous spring. We also had a good spring flow and a record swarming year. To date, it appears that the 1984 crop will be average in the valleys to above average in the mountains.



Vermont Milk Control Board Statement

	FY 83	FY 84
Balance Brought Forward	$ 17,015.04	$ 27,822.34
Assessment Receipts	142,085.44	152,751.82
Milk Control Board License Fees	4,164.00	4,512.00
Balance Available	$163,264.48	$185,086.16
Administrative Costs		
Board Members & Administrative Salaries	$ 2,013.00	$ 2,370.16
Clerical Salaries	5,256.96	5,210.08
Fringe Benefits	1,105.78	1,148.70
Postage	357.00	529.60
Printing/Duplicating	173.30	48.16
Office Supplies	12.68	—0—
Dues	—0—	150.00
Newspaper Advertising	—0—	59.10
Board Members & Administrative Expenses	909.76	1,386.30
Peter Holden (Payment for Litigation Settlement)	—0—	4,000.00
Total Administrative Costs	$ 9,828.48	$ 14,902.10
Allocations		
Dairy Council of Vermont	$ 85,990.98	$ 84,146.96
Milk Promotion Services, Inc.	28,710.68	59,421.35
Dairy Market Development Program	6,537.00	5,313.00
Green Mountain Dairy Promotion	3,750.00	2,500.00
World's Largest Ice Cream Sundae	625.00	—0—
Payments to Brand Advertising Committees	—0—	6,459.97
Total Allocations	$125,613.66	$157,841.28
BALANCE FORWARD	$ 27,822.34	$ 12,342.78

Vermont Dairy Industry Council Statement

	FY 83	FY 84
Receipts Received	$1,858,917.19	$1,923,144.79
Balance Available	$1,858,917.19	$1,923,144.79
Administrative Costs		
Board Members & Administrative Salaries	$ 2,493.00	$ 3,090.16
Clerical Salaries	3,182.56	2,870.56
Fringe Benefits	753.97	736.93
Transcribing Fee	172.50	—0—
Office Supplies	—0—	6.70
Board Members & Administrative Expenses	1,438.30	2,129.42
David A. Gibson (Payment for Litigation Settlement)	—0—	43,308.77
VT Department of Agriculture (Escrow — Billings vs. Dunsmore)	—0—	52,407.42
Total Administrative Costs	$ 8,040.33	$ 104,549.96

	FY 83	FY 84
Advertising Contracts and Agreements		
Dairy Council of Vermont	$ 1,250.00	$ —0—
Milk Promotion Services, Inc.	1,827,738.86	1,793,807.83
Dairy Market Development Program	18,013.00	21,787.00
World's Largest Ice Cream Sundae	1,875.00	—0—
VT Agricultural Enterprises	2,000.00	3,000.00
Total Advertising Contracts and Agreements	$1,850,876.86	$1,818,594.83

Administration Division

PERSONNEL

George M. Dunsmore, *Commissioner*
Robert W. Stone,
Deputy Commissioner — Terminated 6/30/83
Richard E. Burrell,
Deputy Commissioner — Appointed 1/31/84
William H. Rice, *Legal Advisor*
Gilbert H. Parker,
Chief of Information and Education — Agriculture Information — Retired 12/31/82
Malcolm S. Boright, — Appointed 1/17/83
Chief of Information and Education — Agriculture Information
Gail M. Cumming, *Private Secretary*

BUSINESS OFFICE

Elsie W. LaFlamme, *Business Manager*
Martha I. Hicks-Robinson,
Administrative Assistant — 4/11/82-9/1/83
Marie J. Hemenway,
Administrative Assistant — 9/11/83-present
Marie J. Hemenway,
Typist C — 7/1/82-9/10/83
Joan L. Tucker,
Typist C — 9/11/83-3/24/84
Deborah A. Matheson,
Account Clerk — 3/26/84-present

REPORT OF THE BUSINESS OFFICE

The Business Office is assigned the administrative duties for the department. This office works closely with the Commissioner and Deputy and has direct communication with the program directors, assisting with and establishing departmental policies and procedures.

Responsibilities include complete financial control of expenditures, budget preparations, purchasing of supplies and equipment, preparation of payrolls and time reports, personnel matters, deposits and control of departmental receipts, assisting in administering Federal grants, contracts, and other related duties.

This office is also responsible for the licensing of all retail establishments selling oleo, milk, meat, and Class "C" pesticides in Vermont. Approximately two thousand licenses are issued annually. The bi-weekly publication of the department, AGRIVIEW, also falls under the responsibility of this office.

Appropriations and Expenditures

Fiscal Year 1983

	Adjusted Approp.	Expended	Balance
ADMINISTRATION			
Personal Services	$231,275	$231,271	$ 4
Operating Expenses	51,200	50,913	287
Receipts	(46,300)	(46,418)	118
TOTALS	236,175	235,766	409
LIVESTOCK			
Personal Services	284,925	284,400	525
Operating Expenses	49,200	46,929	2,271
Grants	35,045	317	34,728
TOTALS	369,170	331,646	37,524
MEAT/POULTRY INSPECTION			
Personal Services	351,000	347,131	3,869
Operating Expenses	55,000	53,526	1,474
Receipts	(200,000)	(199,048)	(952)
TOTALS	206,000	201,609	4,391
DAIRY MARKETS DEVELOPMENT			
Personal Services	43,200	43,179	21
Operating Expenses	11,400	10,572	828
Receipts	(29,550)	(29,550)	—0—
TOTALS	25,050	24,201	849
DAIRY			
Personal Services	254,500	254,161	339
Operating Expenses	63,565	63,128	437
Receipts	(16,800)	(19,038)	2,238
TOTALS	301,265	298,251	3,014
PLANT INDUSTRY			
Personal Services	237,100	236,515	585
Operating Expenses	44,400	44,012	388
Receipts	(32,000)	(42,442)	10,442
TOTALS	249,500	238,085	11,415
WEIGHTS, MEASURES & RETAIL INSPECTION			
Personal Services	196,050	181,651	14,399
Operating Expenses	37,400	33,683	3,717
Receipts	(16,150)	(12,194)	(3,956)
TOTALS	217,300	203,140	14,160
AGRICULTURAL DEVELOPMENT			
Personal Services	155,825	136,202	19,623
Operating Expenses	61,275	55,983	5,292
Other	60,000	58,987	1,013
Receipts	(65,000)	(58,038)	(6,962)
TOTALS	212,100	193,134	18,966
LABORATORIES			
Personal Services	192,360	172,257	20,103
Operating Expenses	43,700	41,563	2,137
Receipts	(62,600)	(63,253)	653
TOTALS	173,460	150,567	22,893
STIPEND FUND	100,000	100,000	—0—
BREEDERS STAKE	50,000	50,000	—0—

FEDERAL AND SPECIAL FUNDS	Balance Forward and Receipts	Expended	Balance
Agriview Publication	$ 23,804	$ 19,961	$ 3,843
Meat Inspection — Federal	220,067	220,037	30
Dairy Markets Development	6,250	5,000	1,250
Federal/State Inspection of Dairy Products	18,352	14,294	4,058
State Dairy Council	175,017	147,195	27,822
Vt. Dairy Industry Council	1,858,917	1,858,917	—0—
Milk Testing	15,367	6,982	8,385
Plant Pest Survey	19,500	14,894	4,606
Pesticide Enforcement '83 - Fed.	54,993	33,751	21,242
Pesticide Enforcement '82 - Fed.	48,457	44,548	3,909
Pesticide Enforcement '81 - Fed.	3,581	752	2,829
Pesticide Certification '82 - Fed.	17,965	14,323	3,642
Pesticide Certification '83 - Fed.	12,489	5,904	6,585
Federal Egg Inspection	34,903	12,194	22,709
Vt. Products Identification	15,154	6,500	8,654
Eastern States Exposition	10,327	2,850	7,477
Vt. Subterminal Market	3,674	2,405	1,269
VSBA — Sheep Project	3,750	3,750	—0—
FHA — Connecticut River Valley Project	50,000	45,633	4,367
USDA — Soil Conservation Service	5,000	5,000	—0—
NEASDA	6,866	—0—	6,866

Appropriations and Expenditures

Fiscal Year 1984

	Adjusted Approp.	Expended	Balance
ADMINISTRATION			
Personal Services	$211,500	$211,344	$ 156
Operating Expenses	47,700	46,940	760
Receipts	(12,000)	(12,301)	301
TOTALS	247,200	245,983	1,217
LIVESTOCK			
Personal Services	304,300	303,774	526
Operating Expenses	34,800	34,685	115
Grants	34,728	647	34,081
TOTALS	373,828	339,106	34,722
MEAT/POULTRY INSPECTION			
Personal Services	322,000	307,154	14,846
Operating Expenses	55,300	51,673	3,627
Receipts	(210,150)	(191,716)	(18,434)
TOTALS	167,150	167,111	39
DAIRY MARKETS DEVELOPMENT			
Personal Services	62,400	48,387	14,013
Operating Expenses	24,800	19,413	5,387
Receipts	(38,850)	(32,100)	(6,750)
TOTALS	48,350	35,700	12,650
DAIRY			
Personal Services	265,800	265,656	144
Operating Expenses	63,550	63,462	88
Receipts	(16,000)	(16,622)	622
TOTALS	313,350	312,496	854
PLANT INDUSTRY			
Personal Services	244,900	243,430	1,470
Operating Expenses	58,000	57,719	281
Receipts	(50,000)	(48,287)	(1,713)
TOTALS	252,900	252,862	38
WEIGHTS, MEASURES & RETAIL INSPECTION			
Personal Services	207,200	205,306	1,894
Operating Expenses	37,100	36,868	232
Receipts	(10,000)	(16,441)	6,441
TOTALS	234,300	225,733	8,567
AGRICULTURAL DEVELOPMENT			
Personal Services	155,722	155,524	198
Operating Expenses	62,300	62,214	86
Other	135,000	134,837	163
Receipts	(15,000)	(15,273)	273
TOTALS	338,022	337,302	720
LABORATORIES			
Personal Services	185,000	184,949	51
Operating Expenses	33,165	32,778	387
Receipts	(50,200)	(50,229)	29
TOTALS	167,965	167,498	467
STIPEND FUND	96,500	96,500	—0—
BREEDERS STAKE	2,412	2,412	—0—

FEDERAL AND SPECIAL FUNDS	Balance Forward and Receipts	Expended	Balance
Agriview Publication	$ 14,837	$ 12,301	$ 2,536
Meat Inspection — Federal	219,358	199,096	20,262
Dairy Markets Development	6,250	5,000	1,250
Federal/State Inspection of Dairy Products	13,291	4,362	8,929
State Dairy Council	185,203	172,861	12,342
Vt. Dairy Industry Council	1,923,145	1,923,145	—0—
Milk Testing	15,994	1,419	14,575
Plant Pest Survey	24,106	16,238	7,868
Pesticide Enforcement '83 - Fed.	27,313	23,918	3,395
Pesticide Enforcement '84 - Fed.	50,000	44,869	5,131
Pesticide Enforcement '82 - Fed.	3,909	3,909	—0—
Pesticide Enforcement '81 - Fed.	2,830	2,830	—0—
Pesticide Certification '82 - Fed.	3,642	3,642	—0—
Pesticide Certification '83 - Fed.	13,511	9,750	3,761
Pesticide Certification '84 - Fed.	14,021	8,602	5,419
Federal Egg Inspection	50,156	27,643	22,513
Vt. Products Identification	16,464	4,225	12,239
Eastern States Exposition	7,477	3,990	3,487
Vt. Subterminal Market	1,269	1,269	—0—
FHA — Connecticut River Valley Project	4,367	4,367	—0—
USDA — Soil Conservation Service	15,000	14,083	917
NEASDA	7,406	7,406	—0—
NEGC, Inc., Small Scale Agriculture	2,379	10,935	(8,556)
VDIC Escrow — Billings vs. Dunsmore	52,407	36,818	15,589

Department of Agriculture Receipts
Fiscal Years 1983/1984

GENERAL FUND RECEIPTS

PROGRAM	RECEIPT ACCOUNT	1983 RECEIPTS	1984 RECEIPTS
ADMINISTRATION	Sales of Service	705	563
	Sales	128	88
LIVESTOCK	Livestock Dealers Licenses	3,614	3,537
	Swine Garbage Licenses	20	12
	Animal Welfare Licenses	330	480
	Livestock Branding	3	20
MEAT INSPECTION	Meat Handlers Licenses	6,316	6,520
DAIRY	Milk Handlers Licenses	2,750	3,426
	Milk & Cream Testers Licenses	1,053	1,517
	Oleomargarine Licenses	15,295	17,844
	Warehouse Licenses	300	480
	Frozen Dessert Licenses	4,237	4,236
	Imitation Dairy Products Handlers Licenses	225	450
LABORATORIES	Laboratory Fees	312	736
PLANT INDUSTRY	Pesticide Registrations	37,385	39,075
	Pesticide Dealers & Applicators Licenses & Certificates	13,099	14,313
WEIGHTS, MEASURES & RETAIL INSPECTION	Dealers and Repairmen's Licenses	2,034	1,740
	Weighmasters Licenses	1,336	1,252
AGRICULTURAL DEVELOPMENT	Egg Buyers Licenses	83	111
	Fees — Bureau of Markets	3,380	6,777
TOTAL GENERAL FUND		92,605	103,177

Department of Agriculture Receipts
Fiscal Years 1983/1984

FEDERAL AND SPECIAL FUNDS RECEIPTS

PROGRAM	RECEIPT ACCOUNT	1983 RECEIPTS	1984 RECEIPTS
ADMINISTRATION	N.E. Governors' Conference, Inc. — Small Scale Agriculture Project	---	2,378
	Sale of Surplus Property	8,802	4,015
	Agriview Publication	10,269	10,994
	NEASDA	6,866	540
MEAT INSPECTION	Federal Meat Inspection	215,752	218,953
DAIRY	State Dairy Council Taxes	153,838	152,752
	Vermont Dairy Industry Council	1,858,917	1,923,145
	Milk Control Board Licenses	4,164	4,512
	Inspection of Dairy Products — Federal	14,188	9,233
	V.D.I.C. — Escrow — Billings vs. Dunsmore	---	52,407
DAIRY MARKETS DEVELOPMENT	Dairy Markets Development	6,250	5,000
PLANT INDUSTRY	Federal Pesticide Certification '82	9,316	---
	Federal Pesticide Certification '83	12,489	9,811
	Federal Pesticide Certification '84	---	11,384
	Federal Pesticide Enforcement '82	57,034	---
	Federal Pesticide Enforcement '83	25,695	6,071
	Federal Pesticide Enforcement '84	---	50,000
	Plant Pest Survey	19,500	19,500
LABORATORIES	Milk Testing	6,092	7,609
WEIGHTS & MEASURES	Federal Egg Inspection	16,004	27,447
AGRICULTURAL DEVELOPMENT	Vt. Products Identification — Fees	1,860	2,646
	Vt. Products Identification — Labels	12,075	4,685
	VSBA — Sheep Project	1,250	---
	FHA — Connecticut River Valley Project	50,000	---
	USDA — Soil Conservation Service	5,000	15,000
TOTAL FEDERAL & SPECIAL FUNDS		2,495,361	2,538,082

Meat Inspection

Vermont continues to operate an effective, efficient Meat Inspection program. The State program, the only one in the Northeast, is 50% funded by the Federal government. The State Meat Inspection Service provides 1) Ante-Mortem, Post-Mortem and processing inspection for any meats offered for sale within the state (other than federally inspected product), 2) surveillance and facility inspection of all custom slaughter and processing establishments to maintain sanitary requirements and assure that meat products originating from such establishments do not enter commerce, and 3) compliance and evaluation inspection of retail markets to determine that only inspected, wholesome, properly labeled meats, prepared under sanitary conditions, are offered for sale.

There has been a trend, *encouraged by the Vermont Department of Agriculture,* for state plants to become federally inspected in order to increase their market by permitting the interstate shipment of Vermont meat products.

In 1983, one plant went from State to Federal inspection. In 1984, three more state plants went Federal and four more applied for Federal inspection. Of the eight plants that are or will receive Federal inspection, seven will be staffed by State Inspection Personnel under the provisions of either the Talmadge Aiken Act or through cross utilization agreements. This will provide up to 100% reimbursement for these services by the Federal Government. Therefore, these plants will be receiving the Federal Grant of Inspection at no cost to the state in either dollars or job loss. This maintenance of the State Inspection staff, in spite of the conversion of plants to the federal program, has done much to ease the morale problems of the past that arose from the lack of job security in a program that is only funded year to year.

There has been a great effort to cooperate with the Federal Inspection Program that has been very beneficial to both services. There is now an interchange of inspectors both routinely and in emergencies that makes the staffing of both Federal and State plants more efficient.

Because of this degree of cooperation, it has been necessary to have several State Inspectors certified to perform Federal tasks. Five inspectors of the present staff of 10 are now federally certified and can operate as Federal Inspectors.

The Regulations for Meat Inspection, unchanged since 1971, have been completely rewritten to comply more closely with the Federal Regulations. This will result in more uniform application of the Regulations and eliminate some areas of conflict between the two.

LICENSED ESTABLISHMENTS	1983	1984
Retail Markets	1,158	1,180
Wholesalers	32	34
Commercial Processors	23	21
Custom Processors	31	30
Commercial Slaughterhouses	17	17
Commercial Poultry Slaughterhouses	2	3
Custom Slaughterhouses	9	5
4-D Handlers	8	8
Renderers	4	4
Animal Food Manufacturer	2	2

COMMERCIAL SLAUGHTER — July 1, 1982-June 30, 1983

Species	No. Head	Pounds
Cattle	6,327	3,284,497
Calves	480	83,115
Swine	4,579	882,445
Sheep	4,042	189,129
Goats	66	2,275

COMMERCIAL SLAUGHTER — July 1, 1983-June 30, 1984

Species	No. Head	Pounds
Cattle	4,474	2,373,229
Calves	444	75,311
Swine	3,703	714,050
Sheep	3,719	169,609
Goats	55	1,591

Retail C&E Inspection
July 1, 1982-June 30, 1983 — 2,111
July 1, 1983-June 30, 1984 — 1,751

PRODUCT CONDEMNATION — July 1, 1982-June 30, 1983

Retail Condemnations	Processing Condemnations
3,116 lbs.	16,177 lbs.

PRODUCT CONDEMNATION — July 1, 1983-June 30, 1984

1,735 lbs.	1,220 lbs.

CUSTOM SLAUGHTER — July 1, 1982-June 30, 1983

Species	No. Head	Pounds
Cattle	571	285,310
Calves	30	3,873
Swine	584	121,771
Sheep	296	12,543
Goats	2	110

CUSTOM SLAUGHTER — July 1, 1983-June 30, 1984

Species	No. Head	Pounds
Cattle	430	205,957
Calves	43	7,955
Swine	527	95,514
Sheep	163	7,621

CUSTOM PRODUCTION — July 1, 1982-June 30, 1983

531,783 lbs.

CUSTOM PRODUCTION — July 1, 1983-June 30, 1984

431,469 lbs.

COMMERCIAL PROCESSING PRODUCTION — July 1, 1982-June 30, 1983

994,963 lbs.

COMMERCIAL PROCESSING PRODUCTION — July 1, 1983-June 30, 1984

1,117,651 lbs.

COMMERCIAL SLAUGHTER CONDEMNATIONS — July 1, 1982-June 30, 1983

Total pounds condemned — Est. wt.
29,533 lbs. (38 carcasses — 186 parts — 1485 livers)

COMMERCIAL SLAUGHTER CONDEMNATIONS — July 1, 1983-June 30, 1984

Total pounds condemned — Est. wt.
22,988 lbs. (54 carcasses — 546 parts — 1086 livers)

Report of the Livestock Division

David U. Walker, D.V.M., *Director*

PERSONNEL

Office

Marilyn J. Christie	*Steno C*
Kathryn A. Gladden	*Clerk B*
Dagmar C. Schulta	*Clerk B*

Field Inspectors

J. Cyril French	*Livestock Inspector*
George Lafirira	*Livestock Inspector*
Carley Newcity	*Compliance Officer*
Phil Urie	*Livestock Inspector*

116 Accredited and Licensed Fee Basis Veterinarians

FEDERAL PERSONNEL
(Animal & Plant Health Inspection Service, USDA)

Dr. P.W. Larson	*Veterinary Medical Officer*
Dr. J.W. Wheeler	*Veterinary Medical Officer*
(Canadian-Vermont Ports of Entry)	
Georgia S. Amet	*Program Records Clerk*
Steve Chicoine	*Animal Health Technician*
Joseph Giallombardo	*Animal Health Technician*
David McKenzie	*Animal Health Technician*
Wendell Shields	*Animal Health Technician*

Program Summary

Legislative action has delegated the authority and responsibility to the Livestock Division for implementing the following programs:

1. Enforcement of regulations regarding the health of animals and poultry imported from other states and countries in order to protect the animal and human population of Vermont from infectious and contagious diseases.
2. Eradication of Bovine Tuberculosis.
   a. Area testing of cattle.
   b. Supervision of tests for herd accreditation and interstate shipment of cattle and milk.
3. Eradication of Brucellosis.
4. Eradication of Hog Cholera.
5. Control and eradication of miscellaneous infectious and contagious diseases of livestock and poultry.
6. Licensing and bonding and supervision of livestock dealers and commission sales.
7. Licensing and bonding of live poultry dealers.
8. Licensing and inspection of pregnant mare urine collection farms.
9. Licensing and inspection of garbage feeding to swine.
10. Regulation of importation and sale of psittacine birds.
11. Disinfection service.
12. Rabies control.
13. Animal Welfare Act.
14. Horse Pulling.
15. Livestock Branding.

The Department of Agriculture was saddened by the death of long-time employee George Lafirira. George worked as a livestock inspector for many years and will be missed. He was respected by fellow workers and industry alike.

Reorganization of the Department of Agriculture is slated to take place on July 1, 1984. At this point, Animal Health and Meat Inspection will come under a new designation, Animal Health and Products Division. The State Veterinarian will be separated from this division and report directly to the Deputy Commissioner. In actuality Meat Inspection and Animal Health have been separated since October 10, 1984. Reason for this action has been given that departmental reorganization will reduce divisional managers reporting to the Commissioner from 8 to 3 thereby greatly increasing efficiency.

Animal Health Programs have a mission to protect the public health, safety and welfare by controlling and/or eradication of livestock diseases transmissible or communicable to humans and to eradicate those diseases which would be economically disastrous to Vermont's livestock or poultry industries. Decisions such as formation of a Veterinarian's Advisory Group and to seek funding for additional veterinarian positions have been made which should benefit management in the area of Animal Health by greatly expanding input from industry. Recommendations in these areas have been made recognizing the need for state government to be more intimately involved in programs for which the Department is responsible. Those actions would hopefully expedite and, in fact, allow the process to function efficiently. Once sufficient staff is attained in the area of Animal Health more professional disease surveillance, field supervision and contact with the practicing profession could occur.

Disease surveillance programs continue to be efficient and effective as evidenced by the fact that Vermont is essentially free of all major livestock diseases present in the United States. This condition should pertain as long as

programs are adequately funded, sufficiently staffed and properly applied. Flare-ups of focal infections are bound to occur when livestock move in interstate and international commerce. Early detection is all important in prevention of widespread outbreaks.

Most primary livestock disease control programs are carried out under cooperative memoranda of agreement with the United States Department of Agriculture, Animal and Plant Health Inspection Service. Historically cooperative programs for disease control/eradication have received contributions from the State and Federal government in roughly equal proportions of funding, equipment and personnel.

Concern in this area for many states is the very real possibility of significant federal budget cuts affecting personnel numbers and scope of program participation. Should this occur, the Department will face additional funding requirements depending on magnitude of federal decrease in participation in orde to maintain present program levels.

Animal Health programs are primarily continuing surveillance programs designed to maintain population overview and to pinpoint potential disease problems. Such programs, over the years, have demonstrated great effectiveness in isolating disease outbreaks to small portions of the industry and when properly staffed and funded provide the most efficient, dependable and cost-effective form of preventative medicine.

BRUCELLOSIS

Vermont was declared a Brucellosis-Free State on Juiy 1, 1982. A state to qualify for this designation must have been free of the disease in all species for the previous 12 months and maintain stringent surveillance programs.

Brucellosis is the most dangerous disease of cattle in the United States because of its explosive spread through susceptible populations. Periodic outbreaks of this disease must be anticipated in the course of interstate commerce with areas where infection continues. Stringently applied surveillance procedures are a necessity for the foreseeable future to assure early detection and rapid isolation of this disastrous disease.

TUBERCULOSIS

A tuberculosis surveillance program is regularly carried out with cattle herds in one-fourth the towns in each county tested annually on a rotating basis. This program has been carried on through area testing contracts with private veterinary practitioners. Connecticut requires all cattle herds shipping milk into that market be tuberculosis tested annually. Persistent negotiations over several years have failed to materially reduce this requirement. Vermont is a Tuberculosis Accredited Free State.

In addition to the testing program all animals slaughtered are routinely examined for tuberculosis lesions.

Most outbreaks of tuberculosis in the United States are eventually traced to international cattle movement as the original source. Traceback of this type is extremely expensive, often involving several states.

POULTRY

An outbreak of Highly Pathogenic Avian Influenza occurred in Pennsylvania, New Jersey, Virginia, Maryland and Delaware during 1983-1984 threatening the national poultry industry and was declared a national emergency in November of 1983. Through outstanding effort by USDA, the states and industry through quarantine and flock depopulation further spread was prevented. Costs to the federal government alone is approaching $65,000,000. It appears now that the last of virulent virus was buried in March of 1984.

The Department of Agriculture with advice from the poultry industry sought an emergency regulation then promulgated a permanent regulation prohibiting entrance into Vermont of poultry or hatching eggs from any state with areas under either state or federal quarantine for Avian Influenza.

Vermont is a cooperator in the National Poultry Improvement Plan, established to prevent spread of egg transmitted diseases. Residents of this state, by statute, receive testing free of charge on request. Commercially testing occurs to qualify hatching eggs moved in interstate commerce to companies enrolled in NPIP.

RABIES

All dogs are required by law to be vaccinated against rabies at six months of age and prior to licensing. Vaccination must be certified by a licensed veterinarian.

Development of high quality, inactivated vaccines have greatly augmented safety to vaccine recipients. Seventy-five — eighty per cent vaccination of the dog population will apparently control any extensive outbreak of rabies among domestic animals. This Department, the Department of Public Health and the Veterinary profession recommend highly that cats also be vaccinated.

Many dogs go unvaccinated and unlicensed because of loss of dog census records with repeal of the Poll Tax. Also during the past biennium several instances have arisen where lay persons have performed vaccinations apparently illegally. This problem seems to have been quite well addressed cooperatively by the Department of Public Records, Town Clerks, Department of Agriculture and the Veterinary profession.

PET BIRDS

Psittacine birds are prone to develop psittacosis (chlamydiosis) infection which is communicable to humans. State regulations are designed to prohibit entry of birds suffering this disease. However, several states, including Vermont have experienced outbreaks despite exercise of precaution. The crux of the situation nationally appears to be an unwillingness on the part of the Center for Disease Control to enforce rules on foreign import of psittacine birds to staging areas in this country and to properly treat them. USDA lacks authority in this area. The American Veterinary Medical Association and United States Animal Health Association recognize a threat to public health from this disease and have each registered a protest along with a request for more thorough quarantine and treatment of imported birds.

A seminar was conducted at Concord, New Hampshire, in April of 1984 and was attended by State Veterinarians, Public Health officials and Laboratory personnel from the New England States and New York. Another seminar is being planned to finalize what is hoped to be uniform control regulations for the Northeast.

FAIR INSPECTIONS

Greater emphasis has been placed on examination of health certificates of livestock entering fairgrounds for ex-

hibition purposes. Additionally, livestock exhibition barns at all major fairs were disinfected prior to admittance of livestock by Department personnel.

Urine samples were collected from horses on a selective basis at pulling contests where cash awards or trophies were given to determine presence of illegal drugs.

The Department has authority to inspect and set standards for proper handling of pets exhibited at fairs and field days.

ANIMAL HEALTH AND HUMANE ORGANIZATIONS

Animal Health personnel are being requested with increasing frequency for advice and to assist in ensuring that animals are properly fed and cared for. Most complaints come during the winter months.

New legislation, such as H-191, anti-pound seizure bill passed by the 1984 legislature will probably increase the Department's association with Humane organizations. Humane groups in Vermont appear to be well organized and made up for the most part of well meaning individuals performing a creditable job.

BRUCELLOSIS

BLOOD TESTS AND VACCINATIONS

	No. Herds Tested	No. Animals Tested	Private Calf Vacc.
7/1/82-6/30/83	5,024	34,883 (17-S)	19,434
7/1/83-6/30/84	4,341	30,487 (23-S)	19,773

MILK RING TESTS

	No. Calls	No. Samples Negative	No. Samples Susp.
7/1/82-6/30/83	388	36,074	3
7/1/83-6/30/84	397	33,720	6

T.B. AREA TESTING

	No. Herds Tested	No. Cattle Tested	No. Suspects Tested
7/1/82-6/30/83	978	48,210	22
7/1/83-6/30/84	927	44,665	35

PRIVATE T.B. TESTING

	No. Herds Tested	No. Cattle Tested	No. Suspects Tested
7/1/82-6/30/83	1,705	14,138	6
7/1/83-6/30/84	1,638	12,547	6

CONNECTICUT MILK MARKET TESTING

	No. Herds	No. Cattle	No. Suspects
7/1/82-6/30/83	862	58,550	89
7/1/83-6/30/84	1,173	74,288	61

PRIVATE TESTING OF GOATS

	No. Herds Tested	No. Goats Tested	No. Suspects Tested
7/1/82-6/30/83	25	128	0
7/1/83-6/30/84	23	184	0

T.B. AREA TESTING OF GOATS

	No. Herds Tested	No. Goats Tested	No. Suspects Tested
7/1/82-6/30/83	0	0	0
7/1/83-6/30/84	8	35	0

SUMMARY GARBAGE FEEDING LICENSES

	No. Cooking Permits Issued	No. Hogs Fed Garbage
7/1/82-6/30/83	5	252
7/1/83-6/30/84	3	75

COMMISSION SALES REPORT

7/1/82-6/30/83

Slaughter Cattle	Dairy Cattle	Calves Sold	Amount of Sales	Unclassified	Horses
17,677	4,153	67,560	$17,877,276.60	4,154	453

7/1/83-6/30/84

26,882	3,483	54,910	$15,561,223.47	5,764	347

SUMMARY OF CATTLE IMPORTED

	From Canada	From Other States	Number Releases
7/1/82-6/30/83	2,764	3,880	1,254
7/1/83-6/30/84	2,128	3,328	1,159

CATTLE EXPORTS

7/1/82-6/30/83	5,817
7/1/83-6/30/84	4,319

LIVESTOCK DEALERS

July 1, 1982-June 30, 1983		Total Licenses Issued
Resident Dealers	89	
Non-resident Dealers	34	129
Commission Sales	6	
July 1, 1983-June 30, 1984		
Resident Dealers	80	
Non-resident Dealers	33	119
Commission Sales	6	

SWINE BLOOD TESTED

	Herds	Animals
7/1/82-6/30/83	15	81
7/1/83-6/30/84	2	3

MARKET SWINE TESTED

7/1/82-6/30/83	Total: 712
7/1/83-6/30/84	Total: 559

BACKTAGS APPLIED

7/1/82-6/30/83	Total: 60,942
7/1/83-6/30/84	Total: 62,970

HERDS DEPOPULATED

7/1/82-6/30/83	None
7/1/83-6/30/84	None

INDEMNITY CLAIMS — Brucellosis

	No. Claims	No. Reactors	Indemnity Paid
7/1/82-6/30/83	None		
7/1/83-6/30/84	1	1	$247.20

INDEMNITY CLAIMS — Tuberculosis

	No. Claims	No. Reactors	
7/1/82-6/30/83	2	2	$316.70
7/1/83-6/30/84	2	2	$400.00

Vermont Farm Show, Inc.

The Vermont Farm Show celebrated its 50th anniversary in 1984 with a major expansion into the Barre City ice arena. For many years the show was handicapped by a shortage of commercial exhibit space resulting in some potential exhibitors waiting up to ten years for a space allotment.

The Vermont Farm Show covered the skating rink ice with a layer of plastic and sawdust. Cow mats were laid down the walkways. This expansion provided three times the former exhibit area and allowed twice as many exhibitors to participate. It also made it possible to accommodate today's large farm equipment.

The enlarged show brought with it a large increase in attendance, breaking all previous records with an estimated 22,000.

Along with the increased area and attendance came the largest number of products entered in the competition's history, well over one thousand.

All products entered receive either an excellent award or the judges' reasons for not classifying the entry as excellent. In this way, exhibitors are being educated to make better products available to consumers as well as for on-farm use.

In addition to bringing farmers and exhibitors together a major objective of the Vermont Farm Show continues to be to provide a stage and forum for the education of Vermont agriculturists.

Twelve different agricultural organizations representing nearly every segment of Vermont agriculture have annually developed educational programs for their Vermont Farm Show meetings. These programs are of special value to the increasing number of people who are becoming part or full-time producers of agricultural products.

The increased attendance at the show has caused us to spread these annual meetings to churches and fraternal halls around Barre. We appreciate very much the cooperation of the Barre churches and fraternal organizations for making their facilities available.

The Vermont Future Farmers of America have two full days of activities as part of the Farm Show. Their activities include many contests associated with the year's educational programs. The FFA clubs also set up competitive exhibits.

The Vermont Farm Show, Inc. membership includes:
Vermont Beekeepers Association
Vermont-New Hampshire Potato Growers Association
Vermont Sheep Breeders Association
Vermont Beef Producers Association
Vermont Poultrymen's Association
Vermont Maple Sugar Makers Association
Vermont Horticulture Association
Vermont-New Hampshire Christmas Tree Association
Vermont Plantsmen's Association
Vermont Dairymen's Association

President: Charles Mason — Pawlet
Vice President: Willis Torrey — Brandon
Secretary: Sandra Tarrier — Westford
Treasurer: Heather Whitaker — Williamstown
Manager: Everett Willard — Montpelier
Assistant Manager: Richard Rogers — Chelsea

Vermont Agricultural Enterprises, Inc.

Vermont Agricultural Enterprises is an organization whose members are other agricultural commodity associations. It was organized in 1973 by the Vermont Department of Agriculture as a legal entity to coordinate and manage agricultural activities in the Vermont Building at Eastern States. The activities developed into an operation utilizing a major part of the building and in 1978 the legislature transferred the responsibility for management and operation of the building to the Commissioner of Agriculture. The State of Vermont Buildings Division has responsibility for maintenance, repairs and alterations.

Vermont Agricultural Enterprises, in cooperation with the Department of Agriculture, coordinates the sales and promotional activities. These activities provide Vermont Agriculture an effective means of promoting the products of our farms to over 1,000,000 people who attend the exposition.

The agricultural product sales area of the Building generates the income to finance the promotional exhibits and demonstrations. The profit from $225,000 worth of sales in 1983 were needed to maintain the operation including the expenses of the 75 to 100 people who work in the building. Most all workers are unpaid volunteers; a perfect example of cooperation among Vermont farm people and their organizations who exhibit and demonstrate at the "Big E." Plans are now being developed to give the interior of the building a new look in 1985.

Vermont Agriculture is fortunate to have this showplace of agriculture available in our prime marketing area on a nearly self-supporting basis.

The organization continues to sponsor the Vermont Host Program which seems to be increasing in popularity. We are proud to welcome visitors to our farms so they may see firsthand Vermont farm life and so they may better know the story of Vermont agriculture.

For the past few years Vermont Agricultural Enterprises, in cooperation with Green Mountain Dairy Promotion, Inc., has sponsored Vermont Agriculture Day in the State House. This seems to provide an excellent opportunity for communication with our lawmakers and adds emphasis to the program established on a national basis as National Agriculture Day.

Everett A. Willard
Clerk

Vermont Dairy Statistics

Received in Plants by Counties
Showing Average Prices, Values & Totals

1982

ADDISON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	337	23,944,686	$13.89	$ 3,324,753
Feb.	365	21,501,305	13.79	2,964,951
March	334	24,469,950	13.49	3,300,931
April	339	24,174,109	13.28	3,209,104
May	340	29,205,235	13.00	3,795,527
June	371	27,722,745	12.94	3,586,630
July	377	26,257,713	13.49	3,541,990
Aug.	376	24,953,119	13.97	3,486,478
Sept.	376	23,639,828	13.98	3,305,300
Oct.	380	22,833,372	14.03	3,230,402
Nov.	378	22,279,418	14.07	3,134,875
Dec.	377	23,725,209	13.79	3,271,138
TOTAL	**363**	**294,706,689**	**$13.62**	**$40,152,079**

CHITTENDEN

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	426	22,582,108	$13.89	$ 3,301,379
Feb.	422	20,656,262	14.67	2,989,876
March	421	24,101,740	14.22	3,426,526
April	421	22,922,103	14.00	3,208,145
May	423	24,134,072	13.92	3,359,214
June	320	13,433,021	14.15	1,900,382
July	299	13,723,780	14.66	2,011,741
Aug.	296	13,506,846	14.92	2,015,419
Sept.	290	12,807,991	15.31	1,960,333
Oct.	287	12,887,558	15.50	1,996,992
Nov.	281	11,983,761	15.57	1,865,741
Dec.	284	13,361,177	14.13	1,888,531
TOTAL	**348**	**205,100,419**	**$14.52**	**$29,924,279**

BENNINGTON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	38	2,351,617	$14.49	$ 340,677
Feb.	38	2,172,898	13.89	301,664
March	38	2,283,180	14.20	324,114
April	38	2,153,893	13.96	300,603
May	39	2,365,235	13.68	323,583
June	39	2,208,746	13.64	301,321
July	39	2,071,840	14.05	291,193
Aug.	38	2,276,755	14.42	328,223
Sept.	38	2,337,320	14.12	330,127
Oct.	38	2,376,733	14.68	348,915
Nov.	38	2,344,214	14.67	343,910
Dec.	38	2,542,313	14.41	366,596
TOTAL	**38**	**27,484,744**	**$14.19**	**$3,900,926**

FRANKLIN

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	514	31,966,777	$13.92	$ 4,450,162
Feb.	516	29,253,580	13.83	4,045,683
March	517	33,561,989	13.53	4,540,804
April	516	33,211,773	13.32	4,422,533
May	519	35,827,065	11.83	4,239,959
June	521	35,403,022	11.66	4,126,524
July	518	33,954,539	13.36	4,535,627
Aug.	521	34,237,133	13.81	4,728,596
Sept.	521	33,304,484	13.96	4,648,810
Oct.	520	34,275,708	14.26	4,889,379
Nov.	519	32,622,585	14.28	4,657,286
Dec.	521	34,682,380	13.95	4,839,505
TOTAL	**519**	**402,301,035**	**$13.45**	**$54,124,868**

CALEDONIA

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	228	9,130,798	$15.07	$ 1,375,641
Feb.	228	8,360,700	14.82	1,238,891
March	226	9,546,088	14.27	1,362,031
April	226	9,345,278	13.57	1,267,983
May	230	9,900,930	13.12	1,299,400
June	226	9,606,097	13.12	1,260,068
July	225	8,520,357	14.21	1,210,396
Aug.	225	8,297,106	14.38	1,193,284
Sept.	228	8,460,753	15.00	1,269,277
Oct.	235	8,783,023	14.47	1,358,518
Nov.	233	8,449,670	15.39	1,300,248
Dec.	231	9,247,530	14.90	1,377,608
TOTAL	**228**	**107,648,330**	**$14.41**	**$15,513,345**

LAMOILLE

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	1	35,875	$14.75	$ 5,291
Feb.	1	33,879	14.63	4,957
March	1	33,014	14.06	4,642
April	1	32,982	13.23	4,363
May	1	35,729	13.48	4,816
June	1	36,330	13.48	4,896
July	1	28,587	13.49	3,855
Aug.	1	34,747	13.87	4,819
Sept.	1	32,051	14.05	4,503
Oct.	1	35,173	14.11	4,962
Nov.	1	27,983	14.06	3,923
Dec.	1	29,454	13.92	4,049
TOTAL	**1**	**395,804**	**$13.92**	**$55,076**

ORANGE

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	193	8,688,770	$15.47	$ 1,344,354
Feb.	191	7,883,724	14.89	1,174,220
March	191	8,768,852	14.92	1,308,184
April	190	8,360,891	15.04	1,257,853
May	190	2,031,921	17.81	361,903
June	374	17,481,221	13.75	2,404,482
July	352	16,380,010	14.16	2,319,684
Aug.	338	15,319,388	14.97	2,293,000
Sept.	333	14,922,896	15.00	2,225,592
Oct.	329	15,170,259	15.07	2,285,775
Nov.	311	14,002,080	14.80	2,072,448
Dec.	273	13,645,720	14.54	1,983,655
TOTAL	**247**	**127,732,836**	**$15.00**	**$19,021,150**

WASHINGTON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	270	12,116,841	$14.39	$ 1,743,026
Feb.	271	11,048,235	14.58	1,610,373
March	267	12,551,175	14.10	1,769,678
April	264	12,385,580	13.61	1,685,743
May	265	13,452,710	13.03	1,752,956
June	268	13,589,989	13.01	1,767,862
July	263	12,650,936	13.70	1,732,789
Aug.	262	12,487,927	14.14	1,766,024
Sept.	260	12,316,997	14.76	1,818,261
Oct.	261	12,752,522	15.01	1,914,163
Nov.	267	12,146,215	15.24	1,850,549
Dec.	265	13,023,468	14.43	1,879,865
TOTAL	**265**	**150,522,595**	**$14.15**	**$21,291,289**

ORLEANS

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	686	36,955,260	$14.36	$ 5,306,308
Feb.	688	33,690,025	14.28	4,809,262
March	689	38,101,375	14.00	5,332,467
April	564	36,860,051	13.72	5,055,719
May	578	39,015,822	13.41	5,233,423
June	582	38,387,451	13.33	5,115,917
July	582	37,947,002	13.85	5,254,501
Aug.	598	39,848,832	14.29	5,693,871
Sept.	605	39,038,352	14.40	5,621,401
Oct.	720	40,733,199	14.64	5,962,579
Nov.	735	39,705,132	14.67	5,824,244
Dec.	747	42,522,239	14.38	6,114,324
TOTAL	**648**	**462,804,940**	**$14.11**	**$65,324,015**

WINDHAM

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	42	3,200,488	$13.00	$ 415,584
Feb.	42	2,857,045	13.01	371,605
March	43	3,222,984	13.00	418,717
April	43	3,060,703	13.00	397,891
May	42	3,058,594	13.00	397,605
June	41	2,865,629	13.00	372,528
July	42	2,868,373	13.00	372,879
Aug.	42	2,879,045	13.00	374,270
Sept.	43	2,912,775	13.00	378,651
Oct.	43	3,314,177	13.00	430,833
Nov.	44	3,139,940	13.00	408,187
Dec.	44	3,307,533	13.00	429,975
TOTAL	**42**	**36,687,286**	**$13.00**	**$4,768,725**

RUTLAND

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	102	8,833,642	$14.70	$ 1,298,614
Feb.	102	8,061,778	14.47	1,166,209
March	102	9,003,422	14.32	1,289,190
April	101	8,834,010	12.49	1,103,138
May	101	9,496,348	13.65	1,296,268
June	100	8,993,171	13.50	1,214,074
July	100	8,601,880	14.00	1,204,309
Aug.	99	8,484,174	14.42	1,223,679
Sept.	101	8,351,333	14.67	1,224,864
Oct.	100	8,661,686	14.90	1,290,908
Nov.	99	8,377,510	14.89	1,247,743
Dec.	99	9,006,333	14.67	1,321,571
TOTAL	**101**	**104,705,287**	**$14.21**	**$14,880,567**

WINDSOR

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	12	1,132,270	$14.84	$ 168,009
Feb.	12	1,048,385	14.82	155,322
March	12	1,222,562	14.47	176,873
April	12	1,183,390	14.14	167,356
May	12	1,231,859	13.70	168,758
June	12	1,114,583	13.66	152,256
July	12	1,083,839	14.10	152,790
Aug.	12	1,076,332	14.45	155,535
Sept.	12	1,060,532	14.60	154,922
Oct.	12	1,087,068	14.83	161,183
Nov.	11	1,002,396	14.94	149,803
Dec.	11	1,119,625	14.64	163,927
TOTAL	**12**	**13,362,841**	**$14.42**	**$1,926,734**

Receipt of Milk by Counties Showing Average Prices & Values — 82

County	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Addison	363	294,706,689	$13.62	$ 40,152,079
Bennington	38	27,484,744	14.19	3,900,926
Caledonia	228	107,648,330	14.41	15,513,345
Chittenden	348	206,000,419	14.52	29,924,279
Essex	--	----	---	----
Franklin	519	402,301,035	13.45	54,124,868
Grand Isle	--	----	---	----
Lamoille	1	395,804	13.92	55,076
Orange	247	127,732,836	15.00	19,021,150
Orleans	648	462,804,940	14.11	65,324,016
Rutland	101	104,705,287	14.21	14,880,567
Washington	265	150,522,595	14.15	21,291,289
Windham	42	36,687,286	13.00	4,768,725
Windsor	12	13,362,841	14.42	1,926,734
TOTAL	**2,812**	**1,934,452,806**	**$14.00**	**$270,883,054**

Summary of Vermont Dairy Statistics Showing Distribution of Product 1982

	Pounds
Fluid Milk Shipped	959,153,101
Fluid Milk Made Into Cheddar Cheese	278,489,302
Fluid Milk Made Into Foreign Type Cheese	610,972,809
Fluid Milk Made Into Powder	----
Fluid Milk Made Into Ice Cream & Ice Cream Mix	1,663,996
Fluid Milk Sold Locally	393,429,324
Sweet Cream Shipped	46,977,580
Sweet Cream Made Into Butter	4,359,148
Sweet Cream Sold Locally	3,880,306
Skim Shipped	13,118,839
Skim Condensed & Evaporated	120,248,802
Skim Made Into Powder	96,300,282
Skim Made Into Cottage & Soft Cheese	12,401,716
Skim Sold	5,840,362
Skim Otherwise Utilized	54,995,870
Low Fat Milk Sold Locally	31,751,099

Fluid Milk Received in Plants & Percentage Shipped from Area/Plants 1982

	Lbs. Received as Fluid Milk	Lbs. Shipped as Fluid Milk	Percent Shipped
Addison	294,706,689	$17,344,212	6
Bennington	27,484,744	335,541,041	100
Caledonia	107,648,330	100,549,638	93
Chittenden	206,100,419	32,898,707	16
Essex	--	----	----
Franklin	402,301,035	110,953,739	28
Grand Isle	--	----	---
Lamoille	395,804	----	----
Orange	127,732,836	91,799,072	72
Orleans	462,804,940	282,785,803	61
Rutland	104,705,287	89,623,242	85
Washington	150,522,595	35,033,970	23
Windham	36,687,286	36,478,286	99
Windsor	13,362,841	134,201,689	----
TOTAL	**1,934,452,806**	**959,153,101**	**50**

Due to milk crossing county lines, receipts and shipments do not balance.

Milk Received in Plants by County
Showing Average Prices, Values & Totals

1983

ADDISON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	375	25,674,410	$13.74	$ 3,528,867
Feb.	374	23,285,159	13.74	3,198,992
March	371	25,936,103	13.57	3,518,723
April	400	24,204,378	13.37	3,236,842
May	466	27,286,965	13.15	3,587,387
June	365	26,803,346	13.13	3,520,193
July	362	23,153,718	13.64	3,159,290
Aug.	364	23,687,853	13.96	3,307,765
Sept.	361	24,321,684	14.14	3,438,047
Oct.	364	27,717,082	14.09	3,904,469
Nov.	361	26,797,064	13.97	3,743,922
Dec.	362	27,119,596	13.50	3,661,830
TOTAL	**377**	**305,987,358**	**$13.66**	**$41,806,327**

CHITTENDEN

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	350	17,881,933	$13.94	$ 2,492,654
Feb.	351	16,293,192	13.95	2,272,294
March	348	18,793,521	13.64	2,564,024
April	343	18,883,546	13.47	2,543,794
May	344	19,903,644	13.19	2,626,136
June	345	18,954,640	13.06	2,474,933
July	341	18,152,904	13.53	2,456,787
Aug.	338	18,062,415	14.01	2,530,013
Sept.	333	16,771,944	14.24	2,388,583
Oct.	324	16,248,771	14.37	2,334,622
Nov.	101	5,594,762	13.94	793,903
Dec.	98	5,757,496	13.45	774,505
TOTAL	**301**	**191,398,768**	**$13.72**	**$26,252,248**

BENNINGTON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	123	8,351,623	$14.41	$ 1,203,134
Feb.	122	7,528,712	14.40	1,084,409
March	121	8,264,003	14.25	1,177,357
April	121	7,840,667	14.06	1,102,626
May	119	7,896,203	13.82	1,091,351
June	118	7,330,059	13.82	1,012,920
July	119	6,950,445	14.28	992,718
Aug.	120	6,966,654	14.58	1,015,566
Sept.	122	7,415,231	14.76	1,094,150
Oct.	121	7,969,647	14.72	1,173,423
Nov.	120	7,848,933	14.62	1,147,632
Dec.	121	8,338,229	14.17	1,181,584
TOTAL	**120**	**92,700,406**	**$14.32**	**$13,276,870**

FRANKLIN

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	730	46,673,456	$13.80	$ 6,440,080
Feb.	704	39,167,978	13.82	5,412,248
March	721	44,696,777	13.54	6,053,877
April	755	46,396,131	13.36	6,196,914
May	737	44,450,624	13.11	5,829,126
June	689	41,842,636	13.00	5,440,415
July	668	39,766,481	13.46	5,351,920
Aug.	684	39,757,470	13.83	5,496,750
Sept.	604	35,589,432	14.12	5,025,629
Oct.	527	35,327,813	14.26	5,038,312
Nov.	532	33,289,244	14.26	4,747,692
Dec.	753	40,418,314	13.67	5,526,977
TOTAL	**675**	**487,376,356**	**$13.66**	**$66,559,940**

CALEDONIA

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	229	9,743,553	$14.61	$ 1,423,065
Feb.	213	8,725,599	14.63	1,276,790
March	232	9,774,017	13.88	1,356,843
April	230	9,500,173	13.66	1,297,808
May	227	9,374,155	13.63	1,278,112
June	228	9,265,205	13.06	1,210,393
July	229	8,625,734	14.25	1,228,969
Aug.	230	8,650,585	14.85	1,284,237
Sept.	236	9,243,571	15.22	1,407,000
Oct.	197	8,572,965	15.61	1,337,975
Nov.	202	8,267,228	15.62	1,291,228
Dec.	194	8,968,495	14.30	1,282,585
TOTAL	**221**	**108,711,280**	**$14.42**	**$15,675,005**

LAMOILLE

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	1	35,875	$14.75	$ 5,291
Feb.	1	33,879	14.63	4,957
March	1	33,014	14.06	4,642
April	1	32,982	13.23	4,363
May	1	35,729	13.48	4,816
June	1	36,330	13.48	4,896
July	1	28,587	13.49	3,855
Aug.	1	34,747	13.87	4,819
Sept.	1	32,051	14.05	4,503
Oct.	1	35,173	14.11	4,962
Nov.	1	27,983	14.02	3,923
Dec.	1	29,454	13.75	4,049
TOTAL	**1**	**395,804**	**$13.91**	**$55,076**

ORANGE

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	207	9,879,402	$14.28	$ 1,411,086
Feb.	207	8,833,128	14.34	1,266,522
March	209	9,696,892	14.18	1,374,852
April	211	9,329,016	14.02	1,307,939
May	209	9,808,292	13.79	1,352,543
June	208	9,485,798	13.79	1,308,682
July	208	8,836,046	14.27	1,261,340
Aug.	210	8,577,301	14.58	1,250,433
Sept.	209	9,024,167	14.74	1,330,171
Oct.	205	9,650,708	14.67	1,415,977
Nov.	406	9,241,376	14.54	1,344,155
Dec.	412	9,672,774	14.09	1,362,877
TOTAL	**242**	**112,034,900**	**$14.30**	**$15,986,457**

WASHINGTON

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	265	13,114,880	$14.47	$ 1,897,435
Feb.	265	12,000,927	14.57	1,751,472
March	264	13,743,129	13.87	1,906,850
April	254	13,352,612	13.45	1,795,455
May	266	14,247,430	13.02	1,855,409
June	262	14,003,103	12.89	1,805,449
July	263	13,144,932	13.89	1,826,238
Aug.	263	13,242,135	14.54	1,925,683
Sept.	269	13,806,431	15.23	2,103,135
Oct.	301	14,830,026	15.39	2,282,387
Nov.	307	13,858,973	15.40	2,133,723
Dec.	303	14,496,805	14.20	2,058,058
TOTAL	**274**	**163,841,383**	**$14.25**	**$23,341,294**

ORLEANS

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	753	43,669,717	$14.34	$ 6,262,239
Feb.	752	39,636,446	14.34	5,684,372
March	750	42,992,470	14.10	6,062,797
April	648	43,748,506	13.88	6,073,642
May	744	45,397,766	13.63	6,186,801
June	737	44,134,327	13.51	5,962,592
July	733	43,733,941	13.89	6,076,312
Aug.	730	43,622,009	14.38	6,272,879
Sept.	737	42,503,953	14.58	6,198,898
Oct.	740	44,006,798	14.67	6,455,629
Nov.	773	43,549,096	14.67	6,389,177
Dec.	745	44,205,816	14.17	6,264,254
TOTAL	**737**	**521,200,845**	**$14.18**	**$73,889,592**

WINDHAM

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	44	3,432,891	$14.29	$ 490,731
Feb.	44	3,114,522	14.30	445,220
March	44	3,415,277	14.15	483,432
April	44	3,265,786	13.99	457,046
May	44	3,343,079	13.77	460,509
June	44	3,048,885	13.78	420,288
July	44	2,908,535	14.27	414,903
Aug.	44	2,973,863	14.54	432,548
Sept.	44	2,991,539	14.72	440,504
Oct.	45	3,216,444	14.65	471,369
Nov.	45	3,336,359	14.52	484,606
Dec.	45	3,659,862	14.05	514,393
TOTAL	**44**	**38,707,402**	**$14.25**	**$5,515,549**

RUTLAND

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	118	10,597,154	$14.49	$ 1,535,162
Feb.	117	9,800,131	14.51	1,421,889
March	117	10,967,578	14.16	1,552,958
April	118	10,640,675	14.05	1,494,938
May	116	10,959,390	13.73	1,504,719
June	119	10,096,507	13.54	1,366,787
July	118	9,936,637	14.00	1,390,685
Aug.	118	9,862,315	14.56	1,436,418
Sept.	116	9,376,577	14.83	1,390,439
Oct.	117	9,865,033	14.88	1,467,886
Nov.	115	9,571,196	14.91	1,427,193
Dec.	116	10,130,302	14.29	1,447,577
TOTAL	**117**	**121,803,495**	**$14.32**	**$17,436,651**

WINDSOR

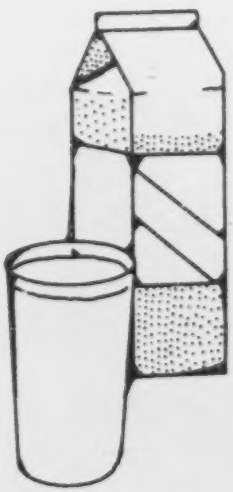
Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Jan.	11	1,131,394	$14.65	$ 165,787
Feb.	11	1,023,753	14.59	149,322
March	11	1,173,437	14.02	164,546
April	11	1,147,048	13.93	159,732
May	11	1,160,448	13.62	158,076
June	11	1,097,587	13.49	148,119
July	11	1,075,336	13.95	149,998
Aug.	11	1,055,241	14.68	154,945
Sept.	11	1,050,781	14.80	155,546
Oct.	11	1,161,525	14.83	172,277
Nov.	11	1,111,377	14.95	166,161
Dec.	11	1,152,450	14.55	167,657
TOTAL	**11**	**13,340,377**	**$14.33**	**$1,912,166**

Milk Received by Counties Showing Average Prices & Values — 1983

Month	No. of Milk Patrons	Lbs. of Milk Received	Ave. Price Per Cwt.	Value of Milk
Addison	377	305,987,385	$13.66	$ 41,806,327
Bennington	120	92,700,406	14.32	13,276,870
Caledonia	221	108,711,280	14.42	15,675,005
Chittenden	301	191,398,768	13.72	26,252,248
Essex	--	----	---	----
Franklin	675	487,376,356	13.66	66,559,940
Grand Isle	--	----	---	----
Lamoille	1	395,804	13.91	55,076
Orange	242	112,034,900	14.30	15,986,457
Orleans	737	521,200,845	14.18	73,889,592
Rutland	117	121,803,495	14.32	17,436,651
Washington	274	163,841,383	14.25	23,341,294
Windham	44	38,707,402	14.14	5,515,549
Windsor	11	13,340,377	14.33	1,912,166
TOTAL	**3,120**	**2,157,498,374**	**$14.00**	**$301,707,175**

Summary of Vermont Dairy Statistics Showing Distribution of Product 1983

	Pounds
Fluid Milk Shipped	1,106,834,125
Fluid Milk Made Into Cheddar Cheese	381,249,916
Fluid Milk Made Into Foreign Type Cheese	632,067,967
Fluid Milk Made Into Bakers & Pot Type Cheese	3,385,584
Fluid Milk Made Into Ice Cream & Ice Cream Mix	980,288
Fluid Milk Sold Locally	121,512,878
Sweet Cream Shipped	59,076,981
Sweet Cream Made Into Butter	4,320,202
Sweet Cream Sold Locally	3,842,286
Skim Shipped	13,449,078
Skim Condensed & Evaporated	140,494,028
Skim Made Into Powder	201,500,472
Skim Made Into Cottage & Soft Cheese	15,151,389
Skim Sold	5,308,833
Skim Otherwise Utilized	642,768
Low Fat Milk Sold Locally	32,208,843



Fluid Milk Received in Plants & Percentage Shipped from Area/Plants 1983

County	Lbs. Received as Fluid Milk	Lbs. Shipped as Fluid Milk	Percent Shipped
Addison	305,987,358	29,918,681	10
Bennington	92,700,406	95,163,416	----
Caledonia	108,711,280	100,145,919	92
Chittenden	191,398,768	21,560,386	----
Essex	--	----	----
Franklin	487,376,356	134,461,410	28
Grand Isle	--	----	----
Lamoille	395,804	----	----
Orange	112,034,900	99,090,435	88
Orleans	521,200,845	347,564,340	67
Rutland	121,803,495	88,689,942	73
Washington	163,841,383	25,980,911	16
Windham	38,707,402	38,707,042	100
Windsor	13,340,377	135,551,643	----
TOTAL	**2,157,498,374**	**1,106,834,125**	**51**

Due to milk crossing county lines, receipts and shipments do not balance.

VERMONT AGRICULTURAL STATISTICS

GEORGE M. DUNSMORE, COMMISSIONER

STATE OFFICE BUILDING

116 STATE STREET

MONTPELIER, VERMONT 05602

UNITED STATES DEPARTMENT OF AGRICULTURE

JOHN R. BLOCK, SECRETARY

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DAIRY HIGHLIGHTS

MILK PRODUCTION

Vermont dairy farms produced a record 2.41 billion pounds of milk during 1983, 1 percent above the 1982 total. The increase was the result of a record high rate per cow, 12,695 pounds in 1983. This continues the long term upward trend in rate for Vermont dairy herds. The average number of milk cows during 1983, at 192,000, showed a small decline from 1982 reversing the small upward trend since 1979.

MILK DISPOSITION AND PRICE

Dairy farms in the Green Mountain State used 12 million pounds of milk for home use during 1983 and fed 30 million pounds to calves. The amount for home use was down 1 million pounds from the previous year while milk fed to calves was 2 million pounds below 1982.

Milk marketed by Vermont dairymen during 1983 totaled 2.37 billion pounds with an average price of $14.22 per cwt. The resulting cash receipts from marketing milk totaled $337 million.

MILK: FARM PRODUCTION AND VALUE OF MILK AND MILK PRODUCTS SOLD, VERMONT, 1973-1983

YEAR	AVERAGE NUMBER OF MILK COWS ON FARMS	PRODUCTION					FARM VALUE OF MILK PRODUCED
		PER MILK COW		PERCENTAGE OF FAT IN ALL MILK PRODUCED	TOTAL		
		MILK	MILKFAT		MILK	MILKFAT	
	1,000	Pounds		Percent	Million Pounds		1,000 Dollars
1973	191	10,199	379	3.72	1,948	72	154,476
1974	193	10,078	372	3.69	1,945	72	180,496
1975	193	10,409	383	3.68	2,009	74	189,449
1976	194	10,789	399	3.70	2,093	77	218,300
1977	191	10,995	405	3.68	2,100	77	216,930
1978	186	11,484	424	3.69	2,136	79	239,659
1979	183	11,907	437	3.67	2,179	80	272,593
1980	186	12,306	449	3.65	2,289	84	307,184
1981	187	12,289	450	3.66	2,298	84	329,074
1982	192	12,422	456	3.67	2,385	88	336,762
1983	190	12,695	471	3.71	2,412	89	342,986

MILK COWS: AVERAGE NUMBER ON FARMS, BY MONTHS AND ANNUAL, VERMONT, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
						1,000							
1973	194	193	193	192	192	191	191	190	190	190	190	190	191
1974	189	191	193	193	193	194	194	194	193	192	192	192	193
1975	192	192	192	193	193	193	194	194	194	194	194	194	193
1976	194	194	194	194	194	193	192	193	194	194	194	194	194
1977	193	192	190	188	188	188	190	192	193	193	193	194	191
1978	194	190	188	185	182	182	182	185	185	185	187	188	186
1979	188	186	184	182	180	180	181	182	183	184	185	186	183
1980	187	186	186	185	185	185	185	186	187	188	188	188	186
1981	188	188	186	186	185	185	185	186	186	188	190	190	187
1982	192	193	193	190	190	189	190	191	191	193	194	194	192
1983	194	192	191	189	187	189	189	189	190	191	190	190	190

MILK PRODUCTION: AVERAGE PER COW, BY MONTHS AND ANNUAL, VERMONT, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
						Pounds							
1973	825	745	870	900	1,000	965	885	840	800	800	745	800	10,199
1974	815	735	855	870	940	965	900	860	825	815	740	785	10,078
1875	805	735	860	880	980	990	900	870	830	845	820	875	10,409
1976	860	825	925	980	1,025	995	945	890	865	865	790	845	10,789
1977	850	785	920	945	1,035	1,040	960	915	900	890	850	890	10,995
1978	890	820	980	1,010	1,080	1,070	1,010	970	930	930	870	925	11,484
1979	930	870	980	1,020	1,100	1,080	1,010	990	980	990	950	990	11,907
1980	985	940	1,045	1,060	1,125	1,110	1,065	1,040	1,000	1,005	940	980	12,306
1981	995	920	1,060	1,070	1,145	1,105	1,060	1,045	1,010	985	930	980	12,289
1982	1,010	910	1,050	1,050	1,120	1,110	1,050	1,040	1,030	1,050	1,000	1,030	12,422
1983	1,055	975	1,100	1,090	1,145	1,085	1,060	1,035	1,025	1,050	1,005	1,065	12,695

MILK PRODUCTION: TOTAL, BY MONTHS AND ANNUAL, VERMONT, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
						Million Pounds							
1973	160	144	168	173	192	184	169	160	152	152	142	152	1,948
1974	154	140	165	168	181	187	175	167	159	156	142	151	1,945
1975	155	141	165	170	189	191	175	169	161	164	159	170	2,009
1976	167	160	179	190	199	192	181	172	168	168	153	164	2,093
1977	164	151	175	178	195	196	182	176	174	172	164	173	2,100
1978	173	156	184	187	197	195	184	179	172	172	163	174	2,136
1979	175	162	180	186	198	194	183	180	179	182	176	184	2,179
1980	184	175	194	196	208	205	197	193	187	189	177	184	2,289
1981	187	173	197	199	212	204	196	194	188	185	177	186	2,298
1982	194	176	203	199	213	210	200	198	196	202	194	200	2,385
1983	205	187	210	206	214	205	200	196	195	201	191	202	2,412

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, VERMONT, 1973-1983

YEAR	SOLD TO PLANTS			SOLD DIRECTLY TO CONSUMERS			COMBINED MARKETINGS		
	QUANTITY	PRICE PER CWT.	CASH RECEIPTS	QUANTITY	PRICE PER QUART	CASH RECEIPTS	QUANTITY	PRICE PER CWT.	CASH RECEIPTS
	Million Pounds	Dollars	1,000 Dollars	Million Quarts	Cents	1,000 Dollars	Million Pounds	Dollars	1,000 Dollars
1973	1,905	7.90	150,495	4.2	32	1,340	1,914	7.93	151,835
1974	1,890	9.25	174,825	3.7	36	1,340	1,898	9.28	176,165
1975	1,955	9.40	183,770	3.7	36	1,340	1,963	9.43	185,110
1976	2,040	10.40	212,160	3.7	40	1,488	2,048	10.43	213,648
1977	2,045	10.30	210,635	3.7	40	1,488	2,053	10.33	212,123
1978	2,090	11.20	234,080	1.9	41	763	2,094	11.22	234,843
1979	2,130	12.50	266,250	1.9	44	818	2,134	12.51	267,068
1980	2,240	13.40	300,160	2.3	51	1,186	2,245	13.42	301,346
1981	2,250	14.30	321,750	2.3	53	1,233	2,255	14.32	322,983
1982	2,335	14.10	329,235	2.3	52	1,210	2,340	14.12	330,445
1983	2,365	14.20	335,830	2.3	52	1,210	2,370	14.22	337,040

MILK: QUANTITIES USED AND MARKETED BY FARMERS, VERMONT, 1973-1983

YEAR	TOTAL PRODUCED	MILK, USED ON FARMS WHERE PRODUCED			MILK MARKETED BY FARMERS		
		USED FOR MILK, CREAM AND BUTTER	FED TO CALVES	TOTAL	SOLD TO PLANTS AND DEALERS	SOLD DIRECTLY TO CONSUMERS	TOTAL
	Million Pounds						
1973	1,948	17	17	34	1,905	9	1,914
1974	1,945	17	30	47	1,890	8	1,898
1975	2,009	16	30	46	1,955	8	1,963
1976	2,093	16	29	45	2,040	8	2,048
1977	2,100	17	30	47	2,045	8	2,053
1978	2,136	18	24	42	2,090	4	2,094
1979	2,179	19	26	45	2,130	4	2,134
1980	2,289	17	27	44	2,240	5	2,245
1981	2,298	14	29	43	2,250	5	2,255
1982	2,385	13	32	45	2,335	5	2,340
1983	2,412	12	30	42	2,365	5	2,370

MILK: SOLD TO PLANTS, MONTHLY AND ANNUAL AVERAGE PRICE PER CWT. RECEIVED BY FARMERS, VERMONT, 1973-1983

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AVERAGE
	Dollars												
1973	7.40	7.45	7.20	6.90	6.85	6.80	7.45	8.30	9.05	9.35	9.55	9.35	7.90
1974	9.45	9.55	9.40	9.40	8.85	8.10	8.60	9.20	9.60	9.95	9.85	9.20	9.25
1975	9.50	9.25	8.90	8.70	8.25	8.15	8.80	9.40	10.10	10.60	10.80	10.90	9.40
1976	10.90	10.50	10.40	9.70	9.60	9.50	10.10	10.70	11.00	11.20	10.90	10.40	10.40
1977	10.20	10.10	9.90	9.80	9.50	9.70	10.20	10.60	11.00	11.20	11.10	10.80	10.30
1978	10.80	10.90	10.60	10.40	10.40	10.30	10.80	11.40	11.90	12.40	12.60	12.30	11.20
1979	12.40	12.40	12.20	11.90	11.80	11.70	12.10	12.80	13.20	12.50	13.60	13.20	12.50
1980	13.10	13.10	13.00	12.80	12.70	12.50	13.00	13.50	14.00	14.50	14.50	14.50	13.40
1981	14.50	14.40	14.20	14.00	13.80	13.60	14.00	14.40	14.70	15.00	14.80	14.50	14.30
1982	14.40	14.30	14.00	13.80	13.50	13.30	13.80	14.20	14.50	14.70	14.70	14.40	14.10
1983	14.40	14.40	14.00	13.90	13.60	13.50	13.90	14.30	14.60	14.70	14.80	14.30	14.20

LIVESTOCK HIGHLIGHTS

CATTLE AND CALVES

The January 1, 1984, inventory of cattle and calves in Vermont totaled 358,000 head, 6 percent less than January 1, 1983. This inventory consisted of 189,000 milk cows, 14,000 beef cows, 77,000 heifers 500 pounds and over, 8,000 steers and bulls and 70,000 calves. The average value of this inventory was $610 per head, $90 less than the previous year and $260 lower than the record high average on January 1, 1981. Both reduced numbers and value per head caused the total inventory value to be only $218 million, 18 percent below the 1983 level. The calf crop (calves born) during 1983 totaled 185,000 head, 3 percent less than during 1982. Cattle and calves marketings in 1983 numbered 181,000 head with a total live weight of 107 million pounds, 25.4 million pounds more than the 1982 total. Both the number of cattle and calves marketed were up from a year ago. The average price received per cwt. for cattle was $41.00 and for calves $47.00, down $5.00 and $7.00 respectively from previous year.

HOGS AND PIGS

Vermont hog producers had 7,900 hogs on hand December 1, 1983. The value per head was $79.00 and the lowest since 1979 and giving a total hog value of $624,000. Total pig crop for 1983 was 17,200 pigs and this was also the lowest pig crop since 1979. The 2,200 sows farrowing produced an average 8.3 pigs per litter. The 14,300 hogs marketed during 1983 were well below recent years. Hog production during the year totaled 3.9 million pounds at a price of $42.00 per cwt.

SHEEP, LAMBS AND WOOL PRODUCTION

January 1, 1984, sheep numbers on Vermont farms totaled 10,000 head, down from the 11,000 head on January 1, 1983 and 1982. The value per head was $82.00 resulting in a total inventory value of $820,000. The lamb crop in 1983 totaled 9,000 lambs. Gross income from sheep and lambs sold, including the value of home consumption, was $443,000, 9 percent above the 1982 income. Wool production in 1983 totaled 65,000 pounds and was obtained from 9,500 sheep shorn. Average fleece weight was 6.8 pounds.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS JANUARY 1, VERMONT, 1973-1984

YEAR	NUMBER	VALUE	
		PER HEAD	TOTAL
	1,000	Dollars	1,000 Dollars
1973	339	350	118,650
1974	334	415	138,610
1975	336	305	102,480
1976	346	345	119,370
1977	338	390	131,820
1978	336	400	134,400
1979	329	590	194,110
1980	340	760	258,400
1981	337	870	293,190
1982	360	815	293,400
1983	379	700	265,300
1984	358	610	218,380

CATTLE: JANUARY 1, INVENTORY BY CLASSES, VERMONT, 1973-1984

YEAR	ALL CATTLE AND CALVES	COWS & HEIFERS THAT HAVE CALVED		HEIFERS 500 LBS. & OVER			STEERS 500 LBS.+	BULLS 500 LBS.+	STEERS, HEIFERS & BULLS -500 LBS.
		BEEF	MILK	REPLACEMENTS		OTHER			
				BEEF COW	MILK COW				
					1,000				
1973	339	15	195	3	62	5	2	5	52
1974	334	15	189	4	60	5	2	5	54
1975	336	14	192	4	62	4	3	5	52
1976	346	14	194	5	63	4	3	5	58
1977	338	13	193	4	63	4	3	5	53
1978	336	13	194	3	61	3	3	5	54
1979	329	11	188	3	62	3	3	4	55
1980	340	13	187	3	68	2	3	4	60
1981	337	11	188	2	69	1	2	3	61
1982	360	12	190	4	77	2	4	4	67
1983	379	10	194	3	92	1	3	3	73
1984	358	14	189	3	73	1	4	4	70

CATTLE AND CALVES: INVENTORY, SUPPLY AND DISPOSITION, VERMONT, 1973-1983

YEAR	ALL CATTLE ON HAND JAN. 1	CALF CROP	INSHIPMENTS	MARKETINGS		FARM SLAUGHTER	DEATHS	
				CATTLE	CALVES	CATTLE & CALVES	CATTLE	CALVES
				1,000				
1973	339	186	14	63	120	2	5	15
1974	334	185	12	62	110	2	5	16
1975	336	187	8	83	78	3	5	16
1976	346	183	13	101	82	3	6	12
1977	338	184	19	103	72	2	8	20
1978	336	175	9	97	74	2	4	14
1979	329	184	5	79	76	2	5	16
1980	340	180	15	58	99	4	7	20
1981	337	180	14	46	93	3	9	20
1982	360	190	27	68	87	3	10	30
1983	379	185	10	90	91	2	10	23

CATTLE AND CALVES: PRODUCTION AND INCOME, VERMONT, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			CATTLE	CALVES		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	59,900	74,592	33.00	42.90	1,204	26,888
1974	69,960	72,822	26.60	30.10	970	20,693
1975	92,075	89,241	21.60	23.20	809	20,194
1976	100,635	110,343	24.90	29.30	1,363	29,153
1977	99,015	112,295	25.80	35.00	991	30,543
1978	93,985	106,485	40.40	56.00	1,551	45,581
1979	96,215	90,895	57.00	76.00	1,642	54,717
1980	66,260	68,304	58.00	72.00	3,118	43,937
1981	66,800	53,370	53.00	57.00	3,053	31,610
1982	85,200	81,210	46.00	54.00	2,853	40,742
1983	83,710	106,600	41.00	47.00	2,151	46,275

HOGS: PRODUCTION AND INCOME, VERMONT, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER CWT.	VALUE OF HOME CONSUMPTION	GROSS INCOME
	1,000 Pounds		Dollars	1,000 Dollars	
1973	1,739	1,244	36.00	151	599
1974	1,902	1,594	32.00	84	594
1975	2,403	1,941	45.00	197	1,070
1976	2,615	2,094	45.00	205	1,147
1977	3,233	2,476	37.00	168	1,084
1978	2,882	2,555	45.00	246	1,396
1979	4,019	2,784	44.00	400	1,625
1980	10,939	9,025	37.00	664	4,003
1981	7,096	4,965	43.00	839	2,974
1982	6,945	6,413	54.00	539	4,002
1983	5,179	3,892	42.00	511	2,146

HOGS: INVENTORY NUMBER, PIG CROP AND DISPOSITION, VERMONT, 1973-1983

YEAR	ON HAND DEC 1st PREVIOUS YEAR	PIG CROP		MARKETINGS	FARM SLAUGHTER	DEATHS
		DEC - MAY	JUN - NOV			
			H e a d			
1973	4,700	3,600	3,000	5,200	800	400
1974	4,900	3,500	3,200	5,900	300	300
1975	5,100	4,700	3,300	7,300	500	300
1976	5,000	4,900	4,500	7,600	500	300
1977	6,000	5,000	5,700	8,800	500	400
1978	7,000	4,400	5,000	9,100	600	400
1979	6,300	7,000	7,500	10,900	1,000	400
1980	8,500	18,000	18,000	32,100	3,000	1,400
1981	8,000	15,000	11,000	21,000	3,000	1,000
1982	9,000	13,000	11,000	22,900	1,200	1,000
1983	7,900	8,100	9,100	14,300	2,600	300

HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, VERMONT, 1972-1983

YEAR	NUMBER			VALUE	
	BREEDING	MARKET	TOTAL	PER HEAD	TOTAL
		Head		Dollars	1,000 Dollars
1972	900	3,800	4,700	36.50	172
1973	1,200	3,700	4,900	61.00	299
1974	1,300	3,800	5,100	52.50	268
1975	1,500	3,500	5,000	68.50	343
1976	1,300	4,700	6,000	55.00	330
1977	1,600	5,400	7,000	75.50	529
1978	1,300	5,000	6,300	86.00	542
1979	1,700	6,800	8,500	63.00	536
1980	2,400	5,600	8,000	86.00	688
1981	2,700	6,300	9,000	89.00	801
1982	1,700	6,200	7,900	79.50	628
1983	1,600	6,300	7,900	79.00	624

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, VERMONT, 1973-1983

YEAR	SPRING CROP (DEC - MAY)			FALL CROP (JUN - NOV)			TOTAL PIG CROP
	SOWS	PIGS / LITTER	PIGS SAVED	SOWS	PIGS / LITTER	PIGS SAVED	
				Head			
1973	500	7.2	3,600	400	7.5	3,000	6,600
1974	500	7.0	3,500	500	6.3	3,200	6,700
1975	700	6.7	4,700	500	6.6	3,300	8,000
1976	700	7.0	4,900	600	7.5	4,500	9,400
1977	700	7.2	5,000	800	7.1	5,700	10,700
1978	600	7.3	4,400	700	7.2	5,000	9,400
1979	900	7.8	7,000	1,000	7.5	7,500	14,500
1980	2,500	7.2	18,000	2,700	6.7	18,000	36,000
1981	2,000	7.5	15,000	1,400	7.5	11,000	26,000
1982	1,600	8.3	13,000	1,400	7.5	11,000	24,000
1983	1,100	7.4	8,100	1,100	8.3	9,100	17,200

SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, VERMONT, 1973-1984

YEAR	LAMBS			ONE YEAR AND OVER		ALL SHEEP & LAMBS	VALUE	
	ALL LAMBS	EWES	WETHERS AND RAMS	EWES	WETHERS AND RAMS		PER HEAD	TOTAL
			H e a d				Dollars	1,000 Dollars
1973	1,700	1,200	500	4,500	300	6,500	26.00	169
1974	1,500	1,100	400	4,700	400	6,600	40.00	264
1975	1,600	1,200	400	4,800	400	6,800	42.50	289
1976	1,500	1,100	400	5,100	300	6,900	43.50	300
1977	1,700	1,100	600	5,100	300	7,100	45.00	320
1978	1,900	1,300	600	5,600	400	7,900	48.00	379
1979	2,000	1,400	600	5,600	400	8,000	57.00	456
1980	2,200	1,700	500	5,600	400	8,200	76.00	623
1981	2,800	2,200	600	6,000	400	9,200	89.00	819
1982	3,000	2,000	1,000	7,000	1,000	11,000	97.00	1,067
1983	2,000	2,000	---	8,000	1,000	11,000	95.00	1,045
1984	2,000	2,000	---	7,000	1,000	10,000	82.00	820

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, VERMONT, 1973-1983

YEAR	ALL SHEEP AND LAMBS ON HAND JAN. 1	LAMB CROP	MARKETINGS		FARM SLAUGHTER SHEEP & LAMBS	DEATHS SHEEP & LAMBS
			SHEEP	LAMBS		
			H e a d			
1973	6,500	5,500	1,300	2,800	300	1,000
1974	6,600	5,400	1,100	2,400	400	1,300
1975	6,800	5,700	1,100	2,900	600	1,000
1976	6,900	6,000	1,100	2,800	600	1,300
1977	7,100	6,200	500	2,600	600	1,700
1978	7,900	6,700	1,500	3,100	800	1,200
1979	8,000	7,200	1,700	3,600	500	1,200
1980	8,200	7,300	1,500	3,100	700	1,000
1981	9,200	8,900	800	4,000	800	1,500
1982	11,000	10,300	1,600	6,700	500	1,500
1983	11,000	9,000	2,700	5,500	600	1,200

SHEEP AND LAMBS: PRODUCTION AND INCOME, VERMONT, 1973-1983

YEAR	PRODUCTION	MARKETINGS	PRICE PER 100 POUNDS		VALUE OF HOME CONSUMPTION	GROSS INCOME
			SHEEP	LAMBS		
	1,000 Pounds		Dollars		1,000 Dollars	
1973	466	397	14.00	40.00	17	131
1974	405	330	15.00	36.00	19	108
1975	457	360	22.00	62.00	51	217
1976	440	319	24.00	66.00	67	218
1977	442	238	25.00	67.00	68	199
1978	542	398	35.00	80.00	109	336
1979	594	476	36.00	81.00	83	365
1980	628	355	43.00	76.00	127	330
1981	725	323	32.00	78.00	110	312
1982	671	495	35.00	77.00	97	406
1983	570	579	33.00	87.00	110	443

WOOL: PRODUCTION AND VALUE, VERMONT, 1973-1983

YEAR	SHEEP SHORN	WEIGHT PER FLEECE	SHORN WOOL PRODUCTION	PRICE PER POUND	VALUE
	Head	Pounds	1,000 Pounds	Cents	1,000 Dollars
1973	5,800	8.0	46	75	35
1974	5,700	7.3	42	61	26
1975	5,600	6.9	39	40	16
1976	5,700	7.4	42	64	27
1977	6,200	6.8	42	74	31
1978	7,300	7.5	55	76	42
1979	7,500	7.2	54	85	46
1980	7,800	7.2	56	82	46
1981	9,000	7.1	64	84	54
1982	10,000	6.9	69	68	47
1983	9,500	6.8	65	60	39

POULTRY HIGHLIGHTS

CHICKENS:

The December 1, 1983, inventory of chickens on farms (excluding broilers) in Vermont dropped to a record low of 325,000 birds, 26 percent below a year ago. The inventory consisted of 240,000 hens and pullets of laying age, down 23 percent from previous year and 81,000 pullets not of laying age, 35 percent below the December 1, 1982, number.

Total value of all chickens on hand in the state on December 1, 1983, declined to $780,000, although the average value per bird increased to $2.40. Poultrymen marketed 1.53 million pounds of poultry during 1983 at 10.5¢ per pound compared to 1.14 million pounds at 8.0¢ per pound from the previous year.

EGGS:

The decline in the number of layers resulted in a record low egg production for 1983 of 69 million eggs, down 13 percent from previous year. The average daily rate of lay per 100 birds set a new record high of 72.9 eggs per day, surpassing the previous record of 71.8 eggs set in 1982.

Egg price also reached a record high of 98.0¢ per dozen, allowing egg producers to gross $5.64 million, down $488,000 from 1982.

POULTRY: INVENTORY BY CLASS AND VALUE, VERMONT, DECEMBER 1, 1972-1983

YEAR	CHICKENS, EXCLUDING BROILERS						VALUE	TOTAL
	HENS AND PULLETS OF LAYING AGE		PULLETS NOT OF LAYING AGE		OTHER	TOTAL		
	HENS	PULLETS	3 MONTHS AND OLDER	UNDER 3 MONTHS			HEAD	VALUE
	1,000						Dollars	1,000 Dollars
1972	188	450	93	40	13	784	1.40	1,098
1973	150	461	75	47	8	741	2.10	1,556
1974	160	376	48	42	11	637	2.30	1,465
1975	125	347	83	55	3	613	2.25	1,379
1976	138	337	73	73	3	624	2.40	1,498
1977	167	323	30	72	6	598	2.35	1,405
1978	132	293	57	26	4	512	2.25	1,152
1979	143	267	44	49	3	506	2.30	1,164
1980	140	202	52	33	8	435	2.35	1,022
1981	149	165	62	37	12	425	2.45	1,041
1982	149	163	61	63	4	440	2.20	968
1983	62	178	41	40	4	325	2.40	780

POULTRY: AVERAGE NUMBER OF LAYERS, BY QUARTERS AND ANNUAL, VERMONT, 1973-1983

QUARTER	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						1,000					
DEC-FEB 1/	651	597	524	482	466	478	421	397	336	318	331
MAR-MAY	667	585	501	486	463	450	413	383	322	308	268
JUN-AUG	647	548	484	479	475	438	364	416	329	290	228
SEP-NOV	617	523	475	475	485	434	365	395	329	293	233
ANNUAL	646	563	496	481	472	450	391	398	329	302	260

EGGS: DAILY RATE OF LAY, BY QUARTERS AND ANNUAL, VERMONT, 1973-1983

QUARTER	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Percent					
DEC-FEB 1/	63.2	63.3	67.9	61.6	69.1	67.4	68.6	69.2	66.1	73.4	75.0
MAR-MAY	65.2	65.0	65.1	64.9	68.1	65.2	71.1	71.0	67.5	71.6	73.0
JUN-AUG	63.8	67.4	60.6	68.1	66.4	67.0	68.7	70.5	66.1	70.7	71.5
SEP-NOV	62.3	69.3	60.2	67.1	68.0	68.4	69.2	64.0	70.1	72.3	70.7
ANNUAL	63.6	66.2	63.5	65.3	67.9	67.0	69.4	68.6	67.4	71.8	72.9

EGGS: TOTAL PRODUCTION, BY QUARTERS AND ANNUAL, VERMONT, 1973-1983

QUARTER	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
						Million					
DEC-FEB 1/	37	34	32	27	29	29	26	25	20	21	21
MAR-MAY	40	35	30	29	29	27	27	25	20	20	18
JUN-AUG	38	34	27	30	29	27	23	27	20	19	15
SEP-NOV	35	33	26	29	30	27	23	23	21	19	15
ANNUAL	150	136	115	115	117	110	99	100	81	79	69

1/ December previous year

CHICKENS: PRODUCTION, DISPOSITION AND GROSS INCOME, VERMONT, 1973-1983

YEAR	NUMBER OF BIRDS			LIVEWEIGHT			PRICE PER POUND	GROSS INCOME
	PRODUCED	CONSUMED	SOLD	PRODUCED	CONSUMED	SOLD		
	1,000			1,000 Pounds			Cents	1,000 Dollars
1973	316	10	349	1,715	48	1,885	15.4	297
1974	485	10	579	2,589	48	3,011	10.3	315
1975	422	9	437	2,030	43	2,229	10.2	231
1976	397	9	377	2,018	43	1,960	13.3	267
1977	383	9	400	2,076	43	2,080	11.3	240
1978	318	9	395	1,753	43	2,054	12.3	258
1979	358	9	355	1,803	43	1,846	13.2	250
1980	288	9	350	1,537	43	1,820	8.3	155
1981	279	9	280	1,418	43	1,456	9.0	135
1982	244	9	220	1,172	43	1,144	8.0	95
1983	189	9	295	1,095	43	1,534	10.5	166

EGGS: PRODUCTION, PRICE AND VALUE, VERMONT, 1973-1983

YEAR	EGGS PRODUCED	EGGS SOLD	PRICE PER DOZEN	CASH INCOME FROM FARM SALES	GROSS INCOME
	Million		Cents	1,000 Dollars	
1973	150	148	61.3	7,560	7,662
1974	136	134	59.6	6,655	6,754
1975	115	113	74.7	7,034	7,159
1976	115	114	78.1	7,420	7,485
1977	117	115	75.1	7,197	7,322
1978	110	108	75.9	6,831	6,958
1979	99	97	83.1	6,717	6,856
1980	100	97	84.6	6,839	7,051
1981	81	78	95.2	6,188	6,426
1982	79	77	93.0	5,968	6,123
1983	69	67	98.0	5,472	5,635

HATCH: BROILER-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	8,205	8,430	8,370	8,742	6,691	6,770	2,712	2,043
FEBRUARY	7,797	7,833	7,644	8,103	6,617	5,665	2,548	2,699
MARCH	8,922	9,107	8,961	9,093	7,535	6,391	2,876	2,721
APRIL	8,763	8,804	9,218	9,192	7,252	4,645	3,115	2,890
MAY	8,711	9,481	9,383	9,424	7,545	3,294	3,047	2,841
JUNE	8,494	8,828	8,855	9,216	7,524	3,129	2,910	2,528
JULY	8,720	9,024	9,033	9,216	7,495	3,107	2,774	2,440
AUGUST	8,554	8,184	8,661	8,796	7,620	2,888	2,948	2,249
SEPTEMBER	8,025	7,547	8,168	7,385	6,783	2,844	2,980	2,303
OCTOBER	7,950	8,079	7,998	6,903	6,654	2,672	2,687	2,317
NOVEMBER	8,173	7,867	7,835	6,875	6,857	2,401	2,297	2,143
DECEMBER	8,294	8,179	8,196	7,292	6,999	2,391	2,493	2,511
ANNUAL	100,608	101,363	102,322	100,237	85,572	46,197	33,387	29,685

HATCH: EGG-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1976-1983

MONTH	1976	1977	1978	1979	1980	1981	1982	1983
					1,000			
JANUARY	1,951	2,187	1,668	1,860	2,150	1,767	1,102	1,626
FEBRUARY	2,001	1,985	1,684	1,936	1,899	1,837	1,230	1,370
MARCH	2,249	2,215	1,837	2,128	1,990	2,024	1,685	2,008
APRIL	2,423	2,401	2,145	2,470	1,797	2,060	2,015	1,947
MAY	2,440	2,329	2,231	2,440	2,098	1,954	2,221	2,018
JUNE	2,246	2,153	2,347	2,165	1,899	1,970	1,763	2,070
JULY	1,988	1,977	2,131	2,131	1,782	1,676	1,646	1,716
AUGUST	1,935	2,275	1,967	2,270	2,097	1,647	1,368	1,687
SEPTEMBER	2,014	1,854	1,886	1,438	1,714	1,748	1,426	1,894
OCTOBER	1,881	1,873	2,062	1,938	1,934	1,896	1,603	1,669
NOVEMBER	1,964	1,652	1,863	2,071	1,693	1,538	1,512	1,797
DECEMBER	2,289	1,741	1,850	2,233	1,738	1,467	1,740	2,094
ANNUAL	25,381	24,642	23,671	25,080	22,791	21,584	19,311	21,896

CROP HIGHLIGHTS

HAY

The 1983 Vermont hay acreage totaled 445,000 acres with a production of 926,000 tons. This production was slightly less than 1982 as a result of lower yields for alfalfa hay. The total 1983 acreage consisted of 105,000 acres of alfalfa and 340,000 acres of other hay. Yields showed the usual variations with alfalfa at 2.50 tons per acre, down from 1982, while other hay yielded 1.95 tons, up from the previous year.

Hay prices continue the upward trend of recent years and at $86.00 per ton was $2.00 higher than 1982.

CORN SILAGE

Production of corn silage in 1983 totaled 1,363,000 tons, a one percent increase from 1982. Acres harvested for silage was 94,000 with an average yield of 14.5 tons. Value of the 1983 silage was $34.3 million.

POTATOES

Potato production in 1983 totaled 88,000 hundredweight, 4 percent less than the 1982 production. This decrease resulted from lower yields as harvested acreage was 400 acres for both years. The 1983 average price of $6.30 per hundredweight was well above the 1982 price and put crop value at $554,000.

APPLES

Commercial apple production in 1983 was 1.10 million 42-pound units, 8 percent less than the 1982 production. Value of production was $6.6 million in 1983, 10 percent less than the 1982 value. Along with the lower production, average price was also below the 1982 level and help contribute to the decrease in value.

ALL HAY: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION	PRICE PER TON	VALUE OF PRODUCTION
		Tons		Dollars	1,000 Dollars
1973	458,000	1.87	858,000	42.00	36,036
1974	454,000	1.74	790,000	62.00	48,980
1975	452,000	1.62	730,000	77.00	56,210
1976	451,000	1.90	855,000	63.50	54,293
1977	445,000	1.63	725,000	64.00	46,400
1978	445,000	2.01	893,000	65.00	58,045
1979	435,000	1.91	829,000	63.00	52,227
1980	443,000	1.95	864,000	63.00	54,432
1981	440,000	2.18	959,000	65.00	62,335
1982	445,000	2.10	934,000	84.00	78,456
1983	445,000	2.08	926,000	86.00	79,636

ALFALFA HAY: ACREAGE AND PRODUCTION, VERMONT 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	94,000	2.35	221,000
1974	90,000	1.90	171,000
1975	96,000	1.85	178,000
1976	96,000	2.25	216,000
1977	100,000	1.90	190,000
1978	100,000	2.55	255,000
1979	105,000	2.55	268,000
1980	110,000	2.25	248,000
1981	105,000	2.75	289,000
1982	110,000	2.70	297,000
1983	105,000	2.50	263,000

ALL OTHER HAY: ACREAGE AND PRODUCTION, VERMONT, 1973-1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	PRODUCTION
		Tons	
1973	364,000	1.75	637,000
1974	364,000	1.70	619,000
1975	356,000	1.55	552,000
1976	355,000	1.80	639,000
1977	345,000	1.55	535,000
1978	345,000	1.85	638,000
1979	330,000	1.70	561,000
1980	333,000	1.85	616,000
1981	335,000	2.00	670,000
1982	335,000	1.90	637,000
1983	340,000	1.95	663,000

CORN: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1973-1983

YEAR	ACRES PLANTED FOR ALL PURPOSES	SILAGE		
		ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	VALUE OF PRODUCTION
	1,000	1,000	Tons	1,000 Tons	1,000 Dollars
1973	90	85	12.5	1,063	14,882
1974	97	92	14.0	1,288	21,896
1975	100	94	13.5	1,269	31,725
1976	101	93	15.5	1,442	25,451
1977	105	96	12.5	1,200	28,020
1978	109	100	14.0	1,400	28,700
1979	108	98	15.0	1,470	34,545
1980	109	93	16.0	1,488	34,224
1981	110	92	16.0	1,472	33,414
1982	108	93	14.5	1,349	33,051
1983	108	94	14.5	1,363	34,348

POTATOES: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1973 - 1983

YEAR	ACRES HARVESTED	YIELD PER ACRE	TOTAL PRODUCTION	SEASON AVERAGE PRICE PER CWT.	VALUE OF PRODUCTION
		Cwt.	1,000 Cwt	Dollars	1,000 Dollars
1973	1,000	150	150	8.50	1,275
1974	1,100	220	242	3.50	847
1975	1,000	235	235	6.50	1,528
1976	1,100	205	226	6.20	1,401
1977	1,000	235	235	5.80	1,363
1978	800	200	160	6.80	1,088
1979	700	210	147	6.10	897
1980	500	200	100	8.05	805
1981	500	220	110	5.80	638
1982	400	230	92	4.00	368
1983	400	220	88	6.30	554

APPLES: PRODUCTION AND VALUE, VERMONT, 1973 - 1983

YEAR	TOTAL PRODUCTION 1/	UTILIZED PRODUCTION	PRICE PER UNIT	VALUE OF UTILIZED PRODUCTION
	1,000 42-Pound Units		Dollars	1,000 Dollars
1973	833	833	5.38	4,480
1974	1,238	1,143	4.37	4,992
1975	1,119	1,000	4.33	4,326
1976	1,119	1,119	5.04	5,640
1977	1,119	1,048	5.25	5,500
1978	1,167	1,167	5.37	6,272
1979	1,167	1,167	5.08	5,929
1980	1,190	1,190	6.46	7,682
1981	667	667	7.27	4,852
1982	1,190	1,190	6.17	7,344
1983	1,095	1,095	6.06	6,640

1/ Estimates relate to production in orchards of 100 or more trees.

MAPLE SYRUP

Vermont remained the leading producer of maple syrup with 495,000 gallons in 1983 and 530,000 gallons in 1984. At an average price of $16.90 per gallon, the 1983 crop had a value of $8.4 million compared with an average price of $17.20 and value of $9.1 million in 1984.

The increase in production for 1984 was the result of an increase in taps and a higher yield per tap.

MAPLE SYRUP: PRODUCTION AND VALUE, VERMONT, 1973 - 1984

YEAR	PRODUCTION	SEASON AVERAGE PRICE PER GALLON	VALUE OF PRODUCTION
	1,000 Gallons	Dollars	1,000 Dollars
1973	323	9.30	3,004
1974	325	9.60	3,120
1975	353	10.50	3,707
1976	334	11.00	3,674
1977	437	12.20	5,331
1978	410	13.00	5,330
1979	465	14.20	6,603
1980	315	16.40	5,166
1981	545	17.20	9,374
1982	500	16.50	8,250
1983	495	16.90	8,366
1984	530	17.20	9,116

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, VERMONT, 1973-1984

YEAR	RETAIL					WHOLESALE					ALL SALES EQUIVALENT PER GALLON
	GAL	1/2 GAL	QUART	PINT	1/2 PINT	GAL	1/2 GAL	QUART	PINT	1/2 PINT	
	Dollars										
1973	9.50	5.40	3.25	2.15	1.50	8.80	5.00	3.00	1.90	1.25	9.30
1974	10.80	6.00	3.55	2.40	1.55	9.10	5.15	3.00	1.90	1.15	9.60
1975	11.20	6.30	3.85	2.50	1.65	9.75	5.40	3.30	2.10	1.35	10.50
1976	11.20	6.40	3.85	2.50	1.50	10.20	5.90	3.50	2.20	1.30	11.00
1977	12.00	6.90	4.15	2.75	1.85	11.55	6.40	3.75	2.35	1.60	12.20
1978	12.93	7.27	4.35	2.89	1.88	11.44	6.62	3.89	2.49	1.54	13.00
1979	14.26	8.08	4.86	3.21	2.07	13.10	7.47	4.35	2.77	1.74	14.20
1980	16.64	9.28	5.49	3.56	2.39	15.50	8.89	5.09	3.15	2.12	16.40
1981	18.60	10.40	6.06	3.86	2.51	17.36	9.54	5.43	3.34	2.19	17.20
1982	18.39	10.49	6.05	3.80	2.51	16.55	8.99	5.21	3.25	2.00	16.50
1983	17.95	10.25	6.03	3.82	2.56	16.18	9.17	5.28	3.18	2.10	16.90
1984	18.08	10.25	6.01	3.77	2.60	16.39	9.53	5.31	3.31	2.22	17.10

COMMERCIAL FERTILIZER: CONSUMPTION BY KIND AND PLANT NUTRIENTS, VERMONT, 1965 - 1983

YEAR ENDED JUNE 30	KIND OF FERTILIZER				PRIMARY NUTRIENTS		
	MIXED FERTILIZER	PRIMARY NUTRIENT MATERIALS	SECONDARY AND MICRO-NUTRIENTS	TOTAL FERTILIZER	N	AVAILABLE P_2O_5	K_2O
				Tons			
1965	47,946	12,173	18	60,137	4,458	8,724	8,287
1970	43,519	10,172	51	53,742	6,100	7,246	7,625
1975	41,033	10,096	38	51,167	7,002	5,862	6,737
1977	44,771	12,788	57	57,616	7,403	8,556	7,335
1978	36,344	9,644	55	46,043	6,180	5,517	6,469
1979	41,882	10,910	0	52,792	7,273	6,813	7,729
1980	38,108	13,218	9	51,335	7,511	6,017	7,610
1981	44,285	12,448	84	56,817	7,890	6,690	8,446
1982	39,239	10,080	380	49,699	6,634	6,046	7,438
1983	32,790	11,425	257	44,472	6,197	5,047	7,065

COMMERCIAL FERTILIZER: CONSUMPTION OF PRINCIPAL GRADES, VERMONT, 1977 - 1983

ANALYSIS	FOR YEAR ENDING JUNE 30													
	1977		1978		1979		1980		1981		1982		1983	
	TONS	RANK	TONS	RANK	TONS	RANK	TONS	RANK	TONS	RANK	TONS	RANK	TONS	RANK
18-46- 0	1,244	12	1,666	6	2,175	5	911	11	1,302	9	1,063	9	1,090	7
15-15-15	5,482	2	5,175	2	5,593	2	5,273	2	4,577	2	4,173	2	2,661	3
15- 8-12	6,616	1	6,124	1	6,961	1	6,972	1	6,558	1	5,965	1	4,578	1
10-20-20	1,441	9	1/		1,244	10	1,248	7	1,625	5	1,541	5	1,680	4
10-20-10	2,643	4	2,722	3	2,767	4	2,708	3	2,650	3	2,780	3	2,729	2
10-10-10	2,926	3	2,513	4	2,769	3	2,604	4	2,343	4	2,651	4	923	8
8-16-16	963	13	825	13	1,087	12	1,030	10	899	11	1/		1/	
8-12-12	1,540	8	1,412	9	1,545	7	1,227	8	1,456	6	1,396	6	1,283	6
5-20-20	2,190	5	1,614	7	1,826	6	1,752	5	1,413	7	465	12	1/	
5-10-10	1,631	7	1,576	8	1,537	8	1,296	6	1,307	8	1,133	8	665	9
0-10-40	839	15	784	15	1/		1,133	9	1,101	10	1,202	7	1,520	5

1/ Confidential or ranks higher than 15th for the year.

FEED PRICES: AVERAGE PRICE PAID, BY MONTH, VERMONT, 1979-1983

KIND AND YEAR		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
						Dollars Per Ton							
Laying Feed	1979	144	145	149	150	152	153	165	162	160	165	160	162
	1980	162	162	170	170	170	170	170	180	190	190	200	195
	1981	200	195	190	193	190	190	190	185	180	180	177	176
	1982	177	176	175	175	172	176	176	175	173	160	167	167
	1983	169	172	174	179	182	182	183	200	205	210	205	205
Dairy Feed													
16% protein	1979	152	154	155	151	151	153	165	157	159	167	167	170
	1980	170	165	170	170	171	170	169	180	190	190	200	200
	1981	210	210	200	194	210	205	200	194	189	189	192	191
	1982	191	190	190	192	174	189	188	185	180	162	176	177
	1983	180	179	180	181	183	180	180	185	196	200	205	205
18% protein	1979	157	159	160	156	156	158	172	164	166	174	174	180
	1980	180	175	180	178	180	180	175	185	200	200	210	210
	1981	215	215	205	200	215	215	210	205	200	205	200	200
	1982	200	198	198	198	184	196	193	191	187	169	181	182
	1983	183	181	182	182	184	181	181	186	197	205	215	215
20% protein	1979	160	162	163	159	159	161	175	167	169	176	176	182
	1980	182	180	185	185	183	185	180	195	210	210	230	230
	1981	225	225	215	210	225	220	215	210	205	205	205	205
	1982	205	205	200	200	191	200	196	193	188	179	184	184
	1983	186	184	184	186	189	186	186	193	205	210	220	220
						Dollars Per Cwt.							
Bran	1979	8.60	8.80	8.90	8.90	8.80	8.90	9.50	9.00	8.90	8.90	8.90	9.20
	1980	9.80	9.90	10.00	9.90	10.50	10.50	9.60	9.90	10.50	10.50	10.50	10.50
	1981	10.50	10.00	9.00	10.50	9.50	9.50	9 00	8.50	8.00	8.00	8.40	8.50
	1982	9.50	9.00	9.00	9.00	10.50	9.30	9.00	8.80	8.80	9.50	9.00	9.30
	1983	9.50	9.50	9.60	10.00	10.00	10.00	10.00	10.00	10.00	11.00	12.00	12.00
Middlings	1979	8.50	8.60	8.70	8.30	8.30	8.30	9.20	8.60	8.60	8.90	9.00	9.20
	1980	9.20	8.70	9.00	9.30	9.50	9.40	9.10	9.60	10.50	10.50	10.50	10.50
	1981	10.50	10.50	9.50	10.00	10.50	10.00	9.50	9.50	9.50	9.50	9.90	9.90
	1982	9.90	9.70	9.60	9.90	9.80	9.70	9.30	9.20	9.00	8.50	9.10	9.20
	1983	9.60	9.40	9.30	9.60	9.60	9.60	9.50	10.00	10.00	10.50	11.50	11.50
Cornmeal	1979	7.80	7.90	8.20	8.30	8.50	8.60	9.40	9.30	9.30	9.30	9.20	9.10
	1980	8.80	8.70	9.00	9.00	9.30	9.10	9.30	10.00	10.50	10.50	10.50	10.50
	1981	11.00	11.00	11.00	10.50	11.00	10.50	10.50	10.50	10.00	9.50	9.20	9.20
	1982	9.20	9.40	9.50	9.60	9.40	9.70	9.90	9.80	9.60	8.70	8.80	8.80
	1983	8.80	8.90	9.00	9.10	9.30	9.60	9.90	10.00	10.50	10.50	10.50	10.50
Soybean Meal	1979	14.50	14.50	15.00	15.00	15.00	15.00	16.00	15.00	14.50	15.00	14.50	15.00
	1980	15.00	14.50	14.50	14.00	14.00	14.00	14.00	15.00	17.00	18.00	18.00	17.50
	1981	17.00	16.50	16.50	16.50	17.00	16.50	16.00	16.00	15.50	15.00	15.00	15.00
	1982	15.50	16.00	16.00	15.50	15.50	16.00	16.00	15.50	15.00	14.00	14.50	15.00
	1983	15.00	15.00	14.50	15.00	15.00	15.00	15.00	16.00	17.00	17.00	17.50	17.50
Molasses	1979	5.80	5.90	6.00	6.00	6.00	6.10	6.40	6.40	6.40	6.60	7.20	7.00
	1980	7.20	8.00	8.00	7.90	8.00	8.00	8.00	8.80	9.70	9.70	10.00	9.50
	1981	10.00	10.00	10.00	9.20	9.50	9.00	9.00	9.00	9.00	8.70	8.30	8.10
	1982	8.10	8.00	8.00	7.80	7.70	7.80	7.80	7.80	7.80	8.00	7.80	7.60
	1983	7.60	7.60	7.60	7.60	7.80	7.60	7.60	7.60	7.60	7.60	7.60	7.80
Stock Salt	1979	5.60	5.60	5.70	5.70	5.70	5.60	5.70	5.80	5.80	5.80	6.00	6.00
	1980	6.10	6.00	6.50	7.00	7.50	7.50	7.10	6.90	7.50	7.60	7.50	7.50
	1981	8.00	7.70	7.70	7.00	7.90	8.00	8.00	8.00	8.00	8.00	8.50	8.50
	1982	9.00	8.20	8.20	8.20	8.60	8.40	8.50	8.70	8.50	8.00	8.80	8.80
	1983	8.70	8.70	8.50	8.50	8.30	8.40	8.00	8.40	8.40	8.00	8.10	8.10

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
TOTAL FARM PRODUCTION EXPENDITURES	50,551	8,553,100	55,521	131,301,819
LIVESTOCK & POULTRY:	3,937	666,483	5,792	13,697,917
Cattle Purchased	1,280	216,685	4,209	9,954,172
Hogs & Pigs Purchased	135	22,917	397	939,040
Sheep & Lambs Purchased	8	1,383	153	361,924
Poultry Purchased	602	101,931	346	818,648
Other Livestock & Poultry Purchased	519	87,905	330	780,471
Other 5/	492	83,271	256	606,150
FARM SERVICES:	5,964	1,009,671	9,691	22,918,341
Custom Hire	304	51,500	750	1,772,502
Veterinarian, Medicine & Supplies	526	89,030	343	812,109
Hired Transportation for Delivery to Farm	92	15,593	66	157,157
Insurance	965	163,413	941	2,224,326
Marketing Expenses (Crop & Livestock)	1,041	176,208	1,292	3,056,305
Miscellaneous Farm Business	1,033	174,912	880	2,080,094
Rent	1,064	180,122	5,264	12,448,054
Cash Rent	905	153,197	2,171	5,133,472
Share Rent	159	26,924	3,093	7,314,582
Equipment Leasing 6/	74	12,602	156	367,794
FEED:	11,779	1,994,210	8,580	20,289,707
Grains	1,608	272,182	2,721	6,434,052
Hays & Forages	482	81,666	909	2,150,327
Mixed or Formula Feeds	9,322	1,578,264	4,487	10,611,206
Other Feeds, Additives & Ingredients	362	61,301	371	876,401
Pasture & Grazing Livestock	5	797	92	217,722
WAGES & CONTRACT LABOR:	6,272	1,061,920	4,661	11,023,122
Cash Wages	5,190	878,744	3,701	8,752,328
Contract Labor	132	22,316	275	649,570
Total Perquisites Furnished	950	160,859	686	1,621,225
INTEREST:	3,724	630,501	5,880	13,905,083
Farm Real Estate	2,771	469,166	3,351	7,925,424
Operating Loans 7/	953	161,335	2,529	5,979,659
Landlord Farm Real Estate	42	7,101	250	591,093
FERTILIZER, LIME & SOIL CONDITIONERS: 8/	2,737	463,405	3,546	8,386,797
Custom Applied Fertilizer	626	106,034	1,182	2,794,386
Not Custom Applied Fertilizer	1,739	294,477	1,925	4,553,547
Lime & Soil Conditioners	343	58,118	151	357,783
FUELS & ENERGY:	3,807	644,515	4,042	9,558,793
Gasoline - Delivered Bulk to Farm	802	135,783	818	1,934,959
Gasoline - Purchased at Service Station	269	45,458	299	707,740
Diesel Fuel	848	143,588	1,331	3,148,489
Fuel Oil & Kerosene	330	55,872	52	122,475
L. P. Gas	122	20,732	280	663,241
Natural Gas	145	24,534	144	341,235
Motor Oil, Grease & Special Fluids	127	21,500	173	408,290
Electricity (Excluding Irrigation)	1,090	184,615	687	1,624,669
Electricity for Irrigation	10	1,739	248	585,608

See Footnotes, Page 22

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1983

EXPENDITURE 2/	NORTHEAST		UNITED STATES	
	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/	AVERAGE PER FARM 3/	TOTAL EXPENDITURE 4/
	Dollars	1,000 Dollars	Dollars	1,000 Dollars
FARM & MOTOR SUPPLIES:	3,569	604,179	3,097	7,324,060
Motor Vehic.Operating Cost Other than Fuels	1,693	286,585	2,109	4,988,677
Miscellaneous Farm Supplies	1,129	191,177	707	1,672,711
Marketing Containers	747	126,418	280	662,672
BUILDING, FENCING & FARM IMPROVEMENTS: 9/	1,761	298,057	1,957	4,628,859
New Building Construction & Remodeling	829	140,407	875	2,068,244
Building Maintenance & Repair	389	65,809	219	518,274
Fencing Expenses	75	12,741	147	346,985
Maintenance & Repairs (Other)	130	21,961	252	595,514
New Construction Improvements (Other)	276	46,668	447	1,056,531
TRACTORS & SELF-PROPELLED MACHINERY:	898	151,977	1,694	4,005,601
Tractors	709	119,959	1,102	2,606,156
Tractors, New	331	55,958	570	1,347,430
Tractors, Used	378	64,001	532	1,258,726
Self-Propelled Machinery	189	32,019	592	1,399,445
OTHER FARM MACHINERY,IMPLEMNTS & LIVESTK EQUIPMT:	1,662	281,330	1,449	3,426,304
Farm Machinery, Not Self-Propelled	1,148	194,281	1,042	2,464,286
Dairy, Poultry & Other Livestock Equipment	311	52,579	219	518,458
Repair & Maintenance Livestock Equipment	204	34,470	188	443,560
SEEDS & PLANTS:	1,319	223,367	1,478	3,494,495
Seed for Field Crops & Small Grains	613	103,814	1,034	2,445,698
TAXES:	1,543	261,249	1,200	2,837,617
Farm Real Estate	1,305	220,940	994	2,351,072
Other Property Tax 7/	238	40,309	206	486,545
Landlord Farm Real Estate	443	74,960	690	1,631,400
AUTOS, TRUCKS & OTHER VEHICLES: 10/	765	129,534	1,000	2,365,851
Autos	124	20,985	169	399,404
Trucks	519	87,921	717	1,695,045
Trucks, New	436	73,844	582	1,376,407
Trucks, Used	83	14,078	135	318,638
AGRICULTURAL CHEMICALS: 8/ 11/	802	135,833	1,448	3,425,055
Pesticides for Crops & Crop Storage	737	124,820	469	1,108,614
Pesticides for Livestock, Poultry & Buildings	56	9,461	10	23,850
UNALLOCATED OTHER EXPENSES:	12	2,029	6	14,217

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinarian fees, medicine and breeding fees.
6/ Includes equipment renting.
7/ Includes landlord expenditures.
8/ Landlord expenditure included only in total.
9/ "All Other Improvements" included in total only.
10/ "Other Vehicles" included in total only.
11/ Includes seed treatments.

FARM BALANCE SHEET (Excluding Farm Households), VERMONT, JANUARY 1, 1979-1983

ITEM	1979	1980	1981	1982	1983
			Million Dollars		
Assets:					
Real Estate 1/	963.1	1,039.8	1,139.7	1,121.4	1,146.4
Livestock and Poultry 2/	196.3	260.7	295.7	296.3	267.9
Machinery and Motor Vehicles 3/	228.0	278.3	314.9	311.1	319.6
Crops 4/	64.9	65.7	68.3	76.1	62.8
Financial Assets	69.7	76.4	80.6	82.3	88.0
TOTAL FARM ASSETS	1,522.0	1,720.8	1,899.2	1,887.2	1,884.8
Claims:					
Real Estate Debt 5/	134.0	155.8	167.9	178.2	184.5
Non-Real Estate Debt 6/	106.4	118.6	134.2	146.2	158.1
CCC Loans	1.0	1.0	1.0	1.0	1.0
TOTAL FARM DEBT	241.4	275.4	303.1	325.4	343.6
Equity	1,280.6	1,445.4	1,596.1	1,561.9	1,541.2

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, VERMONT, 1978-1982

CURRENT FARM OPERATING EXPENSES	1978	1979	1980	1981	1982
			Million Dollars		
Feed	81.4	96.2	105.0	109.9	103.2
Livestock	4.0	3.1	2.9	6.8	8.4
Seed	3.4	3.8	4.3	4.6	4.7
Fertilizer and Lime	10.3	12.9	16.8	17.1	18.0
Repairs and Operation of Capital Items	32.6	38.2	45.3	49.8	48.1
Hired Labor	27.2	31.1	34.1	33.2	39.4
Miscellaneous	37.2	43.4	48.9	55.9	61.4
TOTAL CURRENT FARM OPERATING EXPENSES	195.9	228.6	257.3	277.4	283.2
Depreciation and Other Consumption of Farm Capital	46.0	53.4	57.9	65.3	65.8
Taxes on Farm Property	11.8	13.6	13.2	15.1	13.6
Interest on Farm Mortgage Debt	11.2	12.4	14.4	16.1	18.5
Net Rent to Non-Operator Landlord	-1.4	-2.6	-3.0	-3.2	-3.2
TOTAL PRODUCTION EXPENSES	263.5	305.4	339.8	370.7	377.9

GROSS INCOME AND NET INCOME FROM FARMING, VERMONT, 1960-1982

ITEM	1960	1970	1978	1979	1980	1981	1982
				Million Dollars			
Gross Farm Income:							
Cash Receipts from Farm Marketing	126.2	157.5	316.9	355.3	377.8	390.2	407.5
Government Payment	1.6	1.4	4.5	1.2	1.3	1.6	1.6
Non-Money Income	15.4	15.6	33.8	36.9	40.0	44.8	42.5
Other Farm Income	.4	1.0	1.8	2.1	2.2	2.6	2.8
TOTAL	143.5	175.5	357.0	395.5	421.3	439.1	454.4
Farm Production Expenses	101.1	127.2	266.9	305.4	339.8	370.7	377.9
Net Farm Income Before Inventory Adjustment	42.5	48.3	90.1	90.1	81.5	68.4	76.5
Net Change in Farm Inventory	2.5	2.1	1.8	8.0	-1.3	21.3	15.4
Net Farm Income After Inventory Adjustment	45.0	50.4	91.9	98.1	80.2	89.7	91.9

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, VERMONT AND NEW ENGLAND, 1983

ITEM	UNIT	VERMONT			NEW ENGLAND		
		PRODUCTION	RANK	%U.S. TOTAL	PRODUCTION	RANK	%U.S. TOTAL
		1,000			1,000		
CROPS:							
Corn for Silage	tons	1,363	29	1.4	3,904	6	4.0
Maple Syrup	gallons	495	n/a	n/a	607	n/a	n/a
Hay, All	tons	926	35	.7	2,086	23	1.5
Apples	42-Pound	1,095	22	.6	7,929	8	4.0
Potatoes	cwt.	88	46	*	24,190	3	7.2
LIVESTOCK AND POULTRY:							
Eggs	each	69,000	47	.1	3,006,000	8	4.4
Milk	pounds	2,412,000	14	1.7	4,845,000	7	3.5
Wool	pounds	65	33	.1	330	30	.3
Sheep	head	2.7	31	.2	4	30	.2
Lambs	head	5.5	33	.1	26	30	.4
Hogs and Pigs	head	14.3	45	*	102	35	.1
Cattle	head	90	40	.2	191	37	.4
Calves	head	91	35	.9	172	31	1.6

* Less than .05 percent

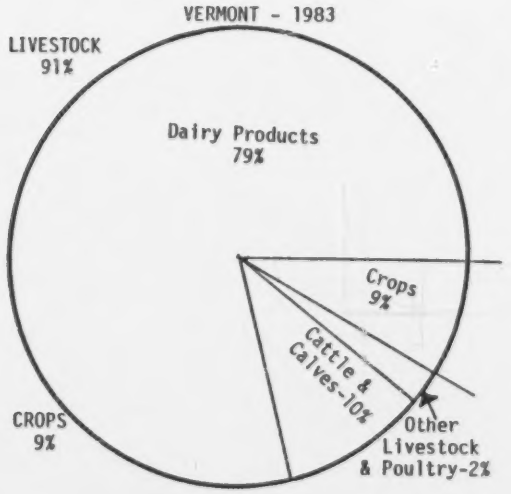
FARMS: NUMBER AND LAND, VERMONT AND NEW ENGLAND, 1973 - 1984 1/

YEAR	VERMONT			NEW ENGLAND		
	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS	NUMBER OF FARMS	AVERAGE SIZE	LAND IN FARMS
		Acres	1,000 Acres		Acres	1,000 Acres
1973	6,700	270	1,810	28,040	192	5,378
1974	6,700	269	1,800	27,740	192	5,318
1975	6,300	281	1,770	26,120	197	5,135
1976	6,900	257	1,770	27,960	185	5,165
1977	6,700	261	1,750	28,300	182	5,155
1978	7,000	250	1,750	28,700	180	5,165
1979	7,300	238	1,740	29,900	173	5,165
1980	7,700	226	1,740	30,660	169	5,185
1981	8,200	220	1,800	30,920	169	5,225
1982	7,500	227	1,700	30,000	169	5,075
1983	7,500	227	1,700	30,200	167	5,045
1984	7,300	233	1,700	29,950	169	5,063

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products.

CASH RECEIPTS FROM FARM MARKETINGS, VERMONT, 1981-1983

COMMODITY	1981	1982	1983	COMMODITY	1981	1982	1983
	1,000 Dollars				1,000 Dollars		
CROPS				LIVESTOCK			
Hay	4,661	5,840	6,906	Cattle and Calves	28,557	37,889	44,124
Potatoes	835	720	452	Hogs and Pigs	2,135	3,463	1,635
Misc. Vegetables	2,585	2,887	2,610	Sheep and Lambs	202	309	331
Apples	6,188	7,092	7,088	Dairy Products	322,983	330,445	337,040
Berries	404	540	497	Chickens	131	92	161
Misc. Fruits	14	14	14	Eggs	6,188	5,968	5,472
Maple	8,806	7,755	7,859	Misc. Poultry	249	236	576
Forest Products	5,270	5,200	5,363	Misc. Livestock	1,666	1,707	1,799
Greenhouse/Nursery	2,231	2,231	3,025	TOTAL LIVESTOCK	362,111	380,109	391,138
Misc. Crops	1,915	2,025	2,085				
TOTAL CROPS	32,909	34,304	35,899	ALL COMMODITIES	395,020	414,413	427,037



Per capita consumption of major food commodities (retail weight)[1]

	1974	1975	1976	1977	1978	1979	1980	1981	1982[2]
					Pounds				
Meats:	151.3	143.7	153.0	152.3	146.9	144.8	147.7	145.2	139.4
Beef	85.6	87.9	94.4	91.8	87.2	78.0	76.5	77.2	77.3
Veal	1.9	3.4	3.3	3.2	2.4	1.7	1.5	1.6	1.6
Lamb and mutton	2.0	1.8	1.6	1.5	1.4	1.3	1.4	1.4	1.5
Pork	61.8	50.7	53.7	55.8	55.9	63.8	68.3	65.0	59.0
Fish (edible weight):	12.1	12.2	12.9	12.7	13.4	13.0	12.8	12.9	12.3
Canned	4.7	4.3	4.2	4.6	5.0	4.8	4.5	4.8	4.3
Fresh and frozen	6.9	7.5	8.2	7.7	8.1	7.8	8.0	7.8	7.7
Cured	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3
Poultry products:									
Eggs	38.0	35.1	34.3	34.0	34.6	35.3	34.6	33.6	33.4
Chicken (ready-to-cook)	40.7	40.1	42.7	44.1	46.7	50.6	50.1	51.7	52.9
Turkey (ready-to-cook)	8.8	8.5	9.1	9.1	9.2	9.9	10.5	10.7	10.8
Dairy products:									
Cheese (excluding cottage)	14.6	14.3	15.7	16.1	17.0	17.2	17.6	18.4	20.1
Canned and bulk whole milk	5.6	5.3	5.0	4.3	4.2	4.1	3.8	4.1	4.1
Fluid milk and cream (product weight)	262.3	266.8	263.6	259.9	257.2	253.2	249.7	245.7	242.2
Ice cream (product weight)	17.4	16.5	17.9	17.5	17.4	17.1	17.3	17.2	17.5
Fats and Oils—Total fat content	52.4	52.4	54.9	53.2	54.6	55.7	55.9	56.6	56.8
Butter (actual weight)	4.5	4.7	4.3	4.3	4.4	4.5	4.5	4.3	4.5
Margarine (actual weight)	11.1	11.0	11.9	11.4	11.2	11.2	11.3	11.1	11.1
Lard	3.2	2.8	2.6	2.2	2.2	2.4	2.4	2.5	2.4
Shortening	16.9	17.0	17.7	17.2	17.8	18.4	18.2	18.5	18.8
Other edible fats and oils	19.8	19.9	21.5	21.0	22.1	22.4	22.7	23.5	23.3
Fruits:									
Fresh	75.9	80.3	82.6	79.3	78.6	80.2	85.3	85.1	81.2
Citrus	26.6	28.4	28.1	25.5	25.7	23.8	28.1	24.2	24.0
Noncitrus	49.3	51.9	54.5	53.8	52.9	56.4	57.2	60.9	57.2
Processed:									
Canned fruit	19.3	19.0	18.6	19.0	17.9	17.8	17.4	16.4	13.0
Canned juice	13.0	14.6	14.5	13.8	16.5	16.9	16.7	19.1	13.8
Frozen (including juices)	12.0	14.0	13.6	14.0	12.5	12.6	13.0	12.7	14.1
Chilled citrus juices	5.2	5.6	6.1	5.7	6.1	5.5	5.9	4.2	3.5
Dried	2.4	2.9	2.6	2.5	2.1	2.6	2.4	2.7	2.8
Vegetables:									
Fresh[3]	91.6	90.3	92.9	93.6	95.4	98.4	98.8	98.2	100.9
Canned (excluding potatoes)	52.9	51.9	53.0	53.1	51.8	53.2	48.5	46.6	45.6
Frozen (excluding potatoes)	10.1	9.6	10.1	10.2	10.7	11.2	10.4	11.6	10.7
Fresh potatoes	45.5	51.6	48.5	51.5	48.8	52.1	43.6	45.3	46.7
Frozen potato products	13.1	13.7	14.6	15.7	17.2	17.7	16.9	18.2	18.1
Sweetpotatoes[4]	4.7	4.8	4.8	4.3	4.0	4.2	4.0	3.8	4.3
Grains:									
Wheat flour[5]	111	115	119	116	115	117	117	116	114
Rice	7.5	7.6	7.1	7.5	8.7	9.4	9.4	11.0	11.8
Other:									
Coffee	9.6	9.2	9.4	8.9	7.9	8.5	7.7	7.7	7.5
Cocoa	3.0	2.8	3.0	2.8	2.8	2.8	2.8	2.9	3.0
Peanuts (shelled)	6.4	6.5	6.2	6.3	6.8	6.8	5.5	6.4	6.6
Dry edible beans	6.0	6.5	6.0	6.2	4.8	4.7	4.6	5.7	6.0
Melons	17.0	17.2	18.3	19.1	19.8	18.9	16.9	18.8	20.4
Sugar (refined)	95.6	89.1	93.4	94.2	91.4	89.3	83.7	79.5	75.2
Corn sweeteners[6]	25.6	26.8	31.9	35.3	39.2	43.3	48.9	55.0	60.0
Soft drinks (gallons)	26.7	27.3	30.6	33.3	35.4	36.8	37.8	38.9	39.6

[1] Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis. [2] Preliminary. [3] Commercial production for sale as fresh produce. [4] Table stock and processed. [5] White, whole wheat, semolina, and durum flour. [6] Fructose and glucose. n.a. = not available.